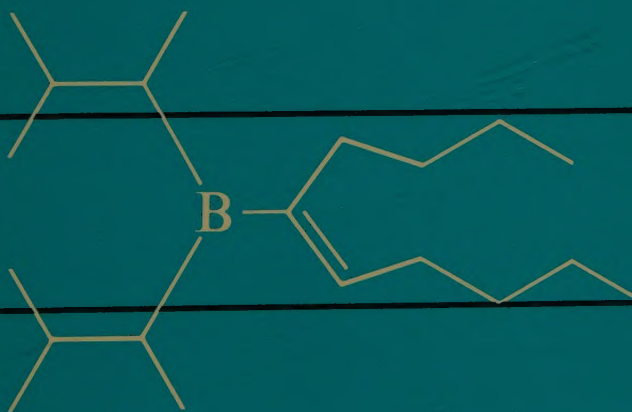


Organometallic Compounds of Boron

Edited by K. Smith



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Boron

Edited by

A. Smith

University of Cambridge

LONDON NEW YORK

CHAPMAN AND HALL

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Edited by

K. Smith

University College of Swansea

LONDON NEW YORK

CHAPMAN AND HALL

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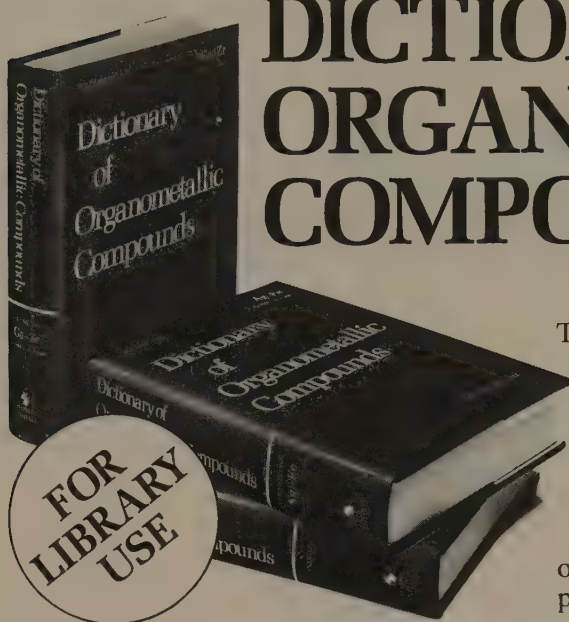
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Preface

This is one of the first volumes to be published in the series of *Chapman and Hall Chemistry Sourcebooks* which provides carefully tailored information to workers in specialized areas of chemistry. The information contained in this book is derived from the *Dictionary of Organometallic Compounds*, published in November 1984.

Organoboron compounds constitute an important class of organometallics: not only do they merit study in their own right but they are also frequently used as laboratory agents in organic synthesis, and have often been instrumental in the general development of structural theory. It is therefore anticipated that this particular compendium will reach a wide readership.

The databank on the properties of organometallic compounds, which is represented in its current form by the *Dictionary of Organometallic Compounds* and its subset publications such as this volume, will be kept continuously up-to-date. Supplements to the main *Dictionary* will appear annually and revised editions of this *Sourcebook* will be published from time to time as demands permits.

K. Smith

Introduction

1. Using the Sourcebook

The entries in this *Sourcebook* are arranged in order of molecular formula according to the Hill convention (i.e. C, then H, then other elements in alphabetical sequence of element symbol; where no carbon is present, the elements including H are ordered strictly alphabetically).

Every entry is numbered to assist ready location and the entry number consists of the symbol B followed by a five-digit number.

Indexes

There are three printed indexes: a name index which lists every compound name or synonym in alphabetical order; a molecular formula index which lists all molecular formulae, including those of derivatives, in Hill convention order; and a CAS registry number index listing all CAS numbers included in the *Sourcebook* in serial order. All indexes refer to the entry number. In the name index an entry number which follows immediately upon an index term means that the term itself is used as the entry name but an entry number which is preceded by the word 'see' means that the term is a synonym to an entry name. In all three indexes an entry number which is preceded by the word 'in' refers the reader to a specified stereoisomer or derivative which is to be found embedded within the particular entry.

In addition to the three printed indexes, a graphical structure index precedes the section containing the entries, allowing the rapid visual location of compounds of interest. The structure index reproduces all structure diagrams in reduced size and printed in entry number order.

The following paragraphs summarize important considerations in compiling the information in this *Sourcebook*. For more detailed information, see the Introduction to the *Dictionary of Organometallic Compounds* from which this *Sourcebook* derives.

2. Compound Selection

In compiling this *Sourcebook* the aim has been to include from the primary literature up to mid 1983:

- (1) Compounds representative of all important structural types (typically, the parent member of each series, where known, together with a selection of its homologues).
- (2) Any compound with an established use, such as

in catalysis, as a synthetic reagent or starting material.

(3) Other compounds of particular chemical, structural, biological or historical interest, especially those thought to exhibit unusual bonding characteristics.

Some compounds which are not considered sufficiently important to justify separate entries of their own have been included as derivatives in the entries of other compounds. These may include for example:

- (1) Organic derivatives in the classical sense.
- (2) Donor-acceptor complexes.
- (3) The various salts of an anion or cation. In nearly every case, the entry for an ionic substance refers to the naked anion or cation, and the molecular formula, molecular weight and CAS registry number given for the main entry are those of the ion, in agreement with current CAS practice. Salts of the ion with various counterions are then treated as derivatives and the molecular formulae of all of these are given.
- (4) Oligomeric compounds. Where a compound is known in several states of molecular aggregation these are all included in the one entry, which usually refers to the monomer. Compounds which are known only in dimeric form are entered as such, but the hypothetical monomers are included as derivatives to ensure that the names and molecular formulae of the monomeric forms occur in the indexes.

All names and molecular formulae recorded for derivatives occur in the Name and Molecular Formula Indexes respectively.

3. Chemical Names and Synonyms

The naming of organometallic compounds is frequently problematic and so in selecting the range of alternative names to present for each compound or derivative, editorial policy has been to report names which are found in the literature, including *Chemical Abstracts*, and not to attempt to impose a system of nomenclature. The editorial generation of new names has therefore been kept to a minimum required by consistency. Most names given in the *Sourcebook* are those given in the original paper(s) and in *Chemical Abstracts*.

Names corresponding to those used by CAS during the 8th, 9th, and 10th collective index periods

(1967-71, 1972-6 and 1977-81 respectively) are labelled with the suffixes 8CI, 9CI and 10CI respectively.

4. Toxicity and Hazard Information

Toxicity and hazard information is highlighted by the sign ▷ which also appears in the indexes.

All organometallic compounds should be treated as if they have dangerous properties.

The information contained in the *Sourcebook* has been compiled from sources believed to be reliable. No warranty, guarantee or representation is made by the Publisher as to the correctness or sufficiency of any information herein, and the Publisher assumes no responsibility in connection therewith.

The specific information in this publication on the hazardous and toxic properties of certain compounds is intended to alert the reader to possible dangers associated with the use of those compounds. The absence of such information should not, however, be taken as an indication of safety in use or misuse.

5. Bibliographic References

The selection of references is made with the aim of facilitating entry into the literature for the user who wishes to locate more detailed information about a particular compound. Reference contents are frequently indicated using mnemonic suffixes. In general recent references are preferred to older ones, and the number of references quoted does not necessarily indicate the relative importance of a compound.

Journal abbreviations generally follow the practice of *Chemical Abstracts Service Source Index* (CASSI). In patent references, no distinction is made between patent applications and granted patents.

6. Sources of Further Information

The following books and review series provide more information about various aspects of organometallic chemistry. Lists of reviews specific to organic compounds of boron may be found in the next section.

General

Comprehensive Organometallic Chemistry, Wilkinson, G. *et al.* Eds, Pergamon, Oxford, 1982. This book represents the most complete and up to date review of the whole subject. In addition to sections

for each element there are chapters on the use of organometallics in organic synthesis and catalysis.

Comprehensive Inorganic Chemistry, Trotman-Dickenson, A.F. *et al.* Eds, Pergamon, Oxford, 1973. Contains information about organometallics as well as discussions of oxidation states, coordination chemistry and analysis of the metals.

Gmelins Handbuch der Anorganischen Chemie, 8th Edn, Springer-Verlag, Berlin. Some volumes of Gmelin covering organometallic compounds have been updated relatively recently and can therefore be consulted for comprehensive data on some types of organometallics. Some Gmelin element sections, however, are many years out of date.

Houben-Weyls Methoden der Organischen Chemie, 4th Edn, Band XIII, *Metallorganische Verbindungen*, Thieme-Verlag, Stuttgart.

The Chemistry of the Carbon-Metal Bond, Hartley, F.R. and Patai, S. Eds, Wiley, New York, 1982-. Contains sections on the synthesis, analysis and thermochemistry of various classes of organometallic compounds.

Transition-Metal Complexes of Phosphorus, Arsenic and Antimony Ligands, McAuliffe, C.A. Ed., Macmillan, London, 1973.

Methods of Elemento-Organic Chemistry, Kocheshkov, K.A. Ed., North Holland, Amsterdam, 1967.

MTP International Review of Science: Inorganic Chemistry, Series 2, Emeléus, H.J. Ed., Butterworths, London; University Park Press, Baltimore, 1974-5.

Advances in Organometallic Chemistry, Academic Press, 1964-.

Annual Surveys of Organometallic Chemistry, Elsevier, 1964-7.

Organometallic Chemistry Reviews, Elsevier, 1966-7.

Organometallic Chemistry Reviews, Section A: Subject Reviews 1968-72.

Organometallic Chemistry Reviews, Section B: Annual Surveys 1968-74.

Journal of Organometallic Chemistry: This incorporates reviews and surveys after the discontinuation of the two series of *Organometallic Chemistry Reviews*.

Organometallic Chemistry, 1972-, (Specialist Periodical Reports), RSC.

Coordination Chemistry Reviews, Elsevier, 1966-.

Progress in Inorganic Chemistry, Interscience, 1959-.

Advances in Inorganic Chemistry and Radiochemistry, Academic Press, 1959-.

Analysis

Scott's Standard Methods of Chemical Analysis, Furman, N.H. Ed., 6th Edn, Van Nostrand, New York, 1962.

Crompton, T.R., *Chemical Analysis of Organometallic Compounds*, Academic Press, London, 1973.

Spectroscopy

Nuclear Magnetic Resonance Spectroscopy of Nuclei Other than the Proton, Axenrod, T. and Webb, G.A. Eds, Wiley, London, 1974.

NMR and the Periodic Table, Harris, R.K. and

Mann, B.E. Eds, Academic Press, London, 1978.

¹³C NMR Data for Organometallic Compounds, Mann, B.E. and Taylor, B.F. Eds, Academic Press, London, 1981.

Spectroscopic Properties of Inorganic and Organometallic Compounds, 1968-, (Specialist Periodical Reports), RSC.

Handling

Shriver, D.F., *The Manipulation of Air-Sensitive Compounds*, McGraw-Hill, 1969.

Organometallic Syntheses, Academic Press, New York, 1965, Vol. 1.

B Boron

K. Smith and J. B. Leach (boranes)

Bore (Fr.), Bor (Ger.), Boro (Sp., Ital.), Bop (Bor) (Russ.), ホウ素 (Japan.)

Atomic Number. 5

Atomic Weight. 10.811

Electronic Configuration. [He] $2s^2 2p^1$

Valency. 3 for simple compounds, but so-called 'electron-deficient' polyhedral cage boron compounds (boranes, carboranes) show other formal valencies. The concept is of limited value for the latter compounds.

Coordination Number. Typically three or four in simple boron compounds, but again a greater variety is experienced in the polyhedral boranes and carboranes where typical values are five and six.

Colour. Colourless unless the organic attachments themselves impart colour. Boron-centered anion radicals are deeply coloured, however.

Availability. The basic raw material for synthesis of most boron compounds is borax, but this is converted into a wide range of secondary sources which are commercially available. Some of the commonest starting materials are $\text{BF}_3\text{--OEt}_2$, BCl_3 , $\text{BH}_3\text{--SMe}_2$, B(OMe)_3 and NaBH_4 , but many other compounds may be used as alternatives. LiBH_4 , NaBH_4 , $\text{Me}_4\text{NB}_3\text{H}_8$, B_2H_6 , B_5H_9 , $\text{B}_{10}\text{H}_{14}$, and $1,2\text{-C}_2\text{B}_{10}\text{H}_{12}$ are common starting materials for polyhedral boranes and carboranes.

Handling. As a general rule, compounds containing B—H, B—halogen, B—OR, B—NR₂ or B—SR bonds are readily hydrolysed by moisture and must be handled in dry conditions. Compounds containing B—alkyl bonds are not particularly sensitive to moisture but are very sensitive to oxygen, volatile examples being pyrophoric. Thus, such compounds are handled in an inert atmosphere or under vacuum. Compounds in which boron is four-coordinate tend to be kinetically more stable than those in which it is three-coordinate, and four-coordinate compounds can often be handled in air for short periods without excessive decomposition. Such is true, for example, of NaBH_4 , pyridine-borane, and related compounds. All organoboron compounds are best routinely handled in dry, aprotic solvents under an atmosphere of nitrogen or argon. The general methods of handling organoboron compounds involve use of syringes and double-ended needles to transfer liquids or solutions of solids into regular glass apparatus having side arms fitted with septa, and a nitrogen atmosphere is maintained by use of a small static pressure, venting through a mercury or paraffin oil bubbler. For small scale work magnetic stirrers are preferred, but mechanical stirrers may be used if appropriate seals are employed. Solids are handled using dry-boxes or atmos-bags. Very occasionally vacuum-line techniques may be required, but for many purposes this is unnecessary. References to techniques for handling air-sensitive compounds are given in the introduction to the *Sourcebook*.

Toxicity. Polyhedral boron compounds (boranes and carboranes) cause physiological problems through attack on the central nervous system and should be handled with caution. Simple trivalent boron compounds are often so readily hydrolysed or oxidized that their main toxicity results from the products of such hydrolysis/oxidation. Typically, the boron component of these product mixtures is boric acid, a moderately toxic compound. On occasions, the other components of the hydrolysis/oxidation reaction mixtures may contribute more to the toxicity (eg. production of HCl by hydrolysis of B—Cl compounds), and in any event it is wise to treat all boron compounds as toxic unless specific information is available to the contrary.

Isotopic Abundance. ^{10}B , 19.78%; ^{11}B , 80.22%.

Spectroscopy. Nmr is widely used to monitor boron compounds. Both ^{10}B ($I = 3$) and ^{11}B ($I = \frac{3}{2}$) nmr are possible, but ^{11}B nmr is far more common and easier to measure. Most compounds are diamagnetic. Multiple-resonance experiments, in which ^1H or ^{13}C nmr measurements are also made, are common. References are given at the end of the section.

Mass-spectra show characteristic boron-isotope patterns (see Gould, R. F., *Borax to Boranes*, *Adv. Chem. Ser.*, 1961, no. 32). Typically, boron-containing fragments contain a substantial proportion of the charge and show up well in the fragmentation pattern.

Infra-red spectra of boron compounds are significant, in particular for B—H bond frequencies which are different for bridging and terminal B—H bonds.

Analysis. This is conveniently achieved by total hydrolysis and/or oxidation to give boric acid. Mannitol is added to complex the boric acid which can then be titrated to a phenolphthalein end point with standard alkali. The method requires careful standardization of procedure and may give results which are inaccurate to 1–2% but is simple and reliable. An easy qualitative test for the presence of boron in a compound is obtained by burning a sample. A bright green flame indicates the presence of boron.

Nomenclature. The nomenclature of boron compounds is confused. *Chemical Abstracts* adopts names which are often out of line with IUPAC recommendations (eg. the continued use of "boronic acid" type nomenclature). Recently, *Chemical Abstracts* personnel have made proposals for changes in the nomenclature of polyboron hydrides which may result in changed usage in future (see Casey, J. B. *et al.*, *Inorg. Chem.*, 1983, **22**, 2228, 2236).

The convention for designation of ^{11}B nmr chemical shifts was changed in the late 1970's and they have been brought into line with designations for other nuclei (downfield shifts positive). Older reports of ^{11}B nmr chemical shifts have the opposite designations (downfield shifts negative).

References. In addition to the review sources common to many elements, listed in the introduction to the *Sourcebook*, a selection of important references is given below:

General

- Brown, H. C., *Boranes in Organic Chemistry*, Cornell, 1972.
Brown, H. C., *Organic Synthesis via Boranes*, Wiley, 1975.
Cragg, G. M. L., *Organoboranes in Organic Synthesis*, Dekker, 1973.
Onak, T. P., *Organoboron Chemistry*, Academic Press, 1975.
Brown, H. C. and Smith, K., *Kirk-Othmer Encycl. Chem. Technol.*, 3rd Edn, 1980, **12**, 793.

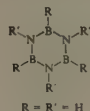
- Grimes, R. N., *Carboranes*, Academic Press, 1970.
Stibr, B. *et al.*, *Pure Appl. Chem.*, 1977, **49**, 803.
Boron Hydride Chemistry, Muetterties, E. L. Ed., Academic Press, 1975.
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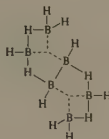
- Eaton, G. R. and Lipscomb, W. N., *Nmr Studies of Boron Hydrides and Related Compounds*, Benjamin, 1969.
Noth, H. *et al.*, *Nmr Basic Principles and Progress*, Diehl, P. *et al.* Eds, Springer-Verlag, 1978, Chapt. 14.
Todd, L. J., *Prog. Nmr Spectrosc.* 1979, **3**, 87.



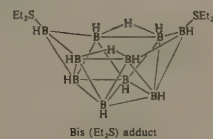
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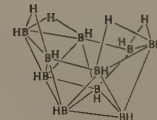
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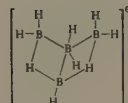
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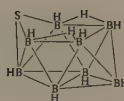
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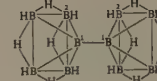
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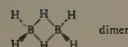
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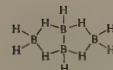
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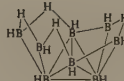
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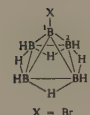
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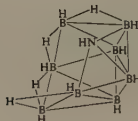
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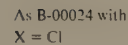
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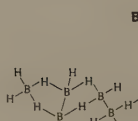
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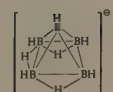
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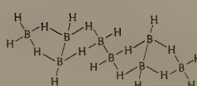
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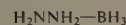
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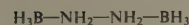
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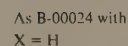
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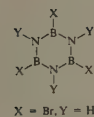
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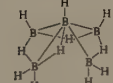
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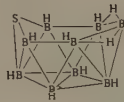
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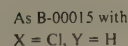
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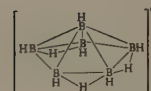
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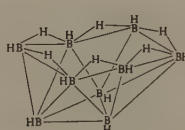
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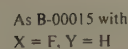
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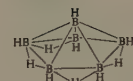
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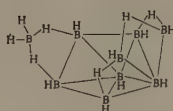
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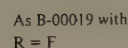
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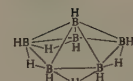
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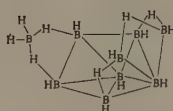
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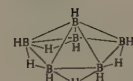
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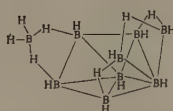
B-00056



B-00019



B-00031



B-00042



B-00057



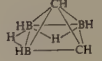
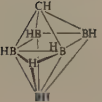
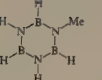
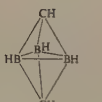
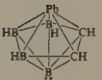
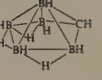
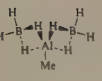
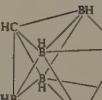
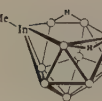
B-00058



B-00059



B-00060

H ₃ B—CO	(F ₃ C) ₂ BF ₂ [⊖]	(MeO) ₂ BCl	EtNH ₂ —BF ₃
B-00061	B-00078	B-00097	B-00116
H ₂ BCOOH	F ₂ BC≡CH	Me ₂ S—BCl ₃	MeNH ₂ —BH ₂ CN
B-00062	B-00079	B-00098	B-00117
MeOH—BF ₃	H ₂ BC≡CH	FBMe ₂	Me ₂ BOH
B-00063	B-00080	B-00099	B-00118
MeBH ₂	H ₂ C=CHBF ₂	(MeO) ₂ BF	HB(OMe) ₂
B-00064	B-00081	B-00100	B-00119
H ₃ N—BH ₂ CN	F ₃ CCOOBH ₃ [⊖]	Me ₂ O—BF ₃	EtB(OH) ₂
B-00065	B-00082	B-00101	B-00120
MeB(OH) ₂	Cl ₂ BCH ₂ CH ₂ BCl ₂	EtOH—BF ₃	
B-00066	B-00083	B-00102	B-00121
(HO) ₂ BOMe	H ₂ C=CHBH ₂	Me ₂ TiBF ₄	1,5-C ₂ B ₃ H ₄ SiH ₃
B-00067	B-00084	B-00103	B-00122
MeBH ₃ [⊖]	EtBBR ₂	Me ₂ BI	As B-00092 with R = H
B-00068	B-00085	B-00104	B-00123
F ₂ BH—NH ₂ Me	EtBCl ₂	MeNC—BH ₃	
B-00069	B-00086	B-00105	
	EtOBCl ₂	AcOBH ₃ [⊖]	Me ₂ S—BH ₂ Br
B-00070	B-00087	B-00106	B-00124
MeNH ₂ —BH ₃	EtBF ₂		Me ₂ S—BH ₂ Cl
B-00071	B-00088	B-00107	B-00125
	EtBI ₂		F ₂ BH—NHMe ₂
B-00072	B-00089		B-00126
	H ₂ C=CHB(OH) ₂		IBH ₂ —SMe ₂
	B-00090		B-00127
			Me ₂ BNH ₂
B-00073	B-00091	B-00109	B-00128
			Me ₂ NBH ₂
B-00074	R = Li	B-00110	B-00129
B ₅ H ₈ CH ₂ SiCl ₃		Me ₂ BH	Me ₂ PBH ₂
B-00075	B-00092	B-00111	B-00130
	Me ₂ BBr	EtBH ₂	
B-00076	B-00093	B-00112	B-00131
H ₃ B—H ₂ NNHMe—BH ₃	Br ₂ BNMe ₂	HBBr ₂ —SMe ₂	
B-00077	B-00094	B-00113	B-00132
	Me ₂ S—BBr ₃	Cl ₂ BH—SMe ₂	Me ₂ NH—BH ₂ Cl
	B-00095	B-00114	B-00133
	Me ₂ BCl	Me ₂ NH—BCl ₃	Me ₂ N—BH ₃ [⊖]
	B-00096	B-00115	B-00134



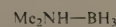
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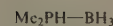
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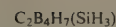
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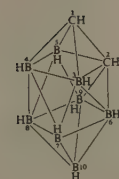
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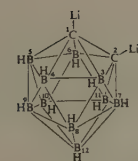
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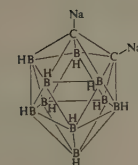
B-00140



B-00141



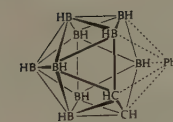
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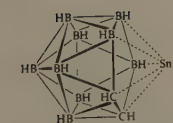
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B-00148



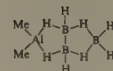
B-00149



B-00150



B-00151



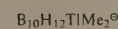
B-00154



B-00155



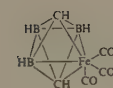
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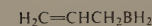
B-00157



B-00158



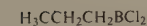
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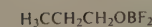
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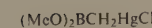
B-00161



B-00162



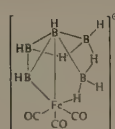
B-00163



B-00164



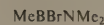
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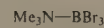
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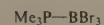
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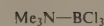
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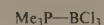
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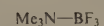
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B-00171



B-00172



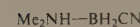
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B-00174



B-00175



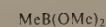
B-00176



B-00177



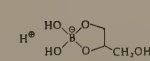
B-00178



B-00179



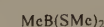
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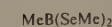
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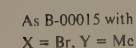
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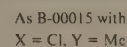
B-00183



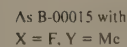
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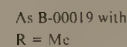
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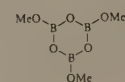
B-00186



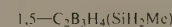
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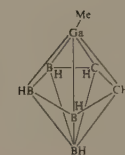
B-00188



B-00189



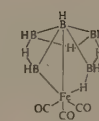
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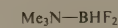
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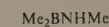
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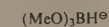
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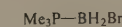
B-00194



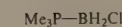
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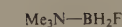
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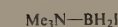
B-00197



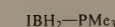
B-00198



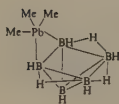
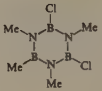
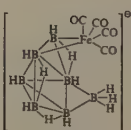
B-00199

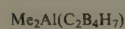


B-00200



B-00201

MeB(NHMe) ₂ B-00202	(AcO) ₂ BF ₂ ^o B-00221	 B-00238	Me ₄ B ^o B-00259
Me ₃ N—BH ₃ B-00203	 B-00222	(EtO) ₂ BCl B-00239	BrB(NMe ₂) ₂ B-00260
Me ₃ B—NH ₃ B-00204		Cl ₂ BNEt ₂ B-00240	Et ₂ O—BH ₂ Br B-00261
(MeO) ₃ B—NH ₃ B-00205	 B-00223	Et ₂ O—BCl ₃ B-00241	Me ₃ N—BMeBr ₂ B-00262
B(NHMe) ₃ B-00206	 B-00224	Et ₂ NBF ₂ B-00242	CIB(NMe ₂) ₂ B-00264
(MeO) ₃ P—BH ₃ B-00207	HC≡CB(OMe) ₂ B-00225	Et ₂ O—BF ₃ B-00243	Et ₂ O—BH ₂ Cl B-00265
Me ₃ P—BH ₃ B-00208		ICH ₂ CH ₂ CH ₂ CH ₂ B(OH) ₂ B-00244	FB(NMe ₂) ₂ B-00266
As B-00015 with X = H, Y = Me B-00209	 B-00226	Et ₂ BH B-00245	Me ₂ BNMe ₂ B-00267
As B-00020 with R = Me, R' = H B-00210	 B-00227	EtBMe ₂ B-00246	As B-00234 with X = H B-00268
As B-00015 with X = OMe, Y = H B-00211	H ₃ CCH ₂ CH ₂ CH ₂ BBr ₂ B-00228	Et ₂ O—BHBBr ₂ B-00247	Me ₂ NBMeOMe B-00269
 B-00212	Cl ₂ BC(CH ₃) ₃ B-00229	Et ₂ O—BHCl ₂ B-00248	(MeO) ₂ BNMe ₂ B-00270
(B ₅ H ₈)CH ₂ SiMe ₂ Cl B-00213	H ₃ CCH ₂ CH ₂ CH ₂ BCl ₂ B-00230	(MeO) ₃ P—BH ₂ CN B-00249	(MeS) ₂ BNMe ₂ B-00271
 B-00214	F ₂ BCH ₂ CH ₂ CH ₂ CH ₃ B-00231	Me ₃ P—BH ₂ CN B-00250	(MeO) ₃ BMe ^o B-00272
(F ₃ COOC) ₂ BH B-00215	F ₂ BOCH ₂ CH ₂ CH ₂ CH ₃ B-00232	Me ₃ N—BH ₂ CN B-00251	(MeO) ₄ B ^o B-00273
(ClCH ₂ COO) ₂ BF ₂ ^o B-00216	H ₃ C(CH ₂) ₃ BF ₃ ^o B-00233	As B-00226 with X = H B-00252	Me ₂ BOBMe ₂ B-00274
 B-00217	 B-00234	Et ₂ BOH B-00253	 B-00275
 B-00218	Et ₂ BBr B-00235	 B-00254	As B-00131 with R ¹ = R ² = CH ₃ B-00276
(H ₂ C=CH) ₂ BCl B-00220	Br ₂ BNEt ₂ B-00236	EtB(OMe) ₂ B-00255	 B-00277
	Et ₂ BCl B-00237	(H ₃ C) ₃ CBH ₃ ^o B-00256	



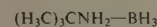
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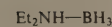
B-00280



B-00281



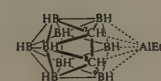
B-00282



B-00283



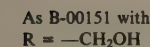
B-00284



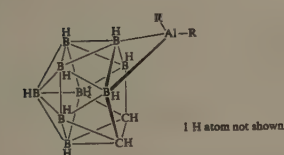
B-00285



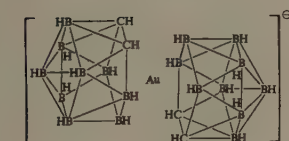
B-00286



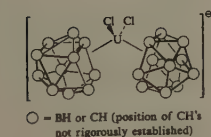
B-00289



B-00291



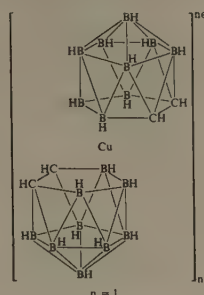
B-00292



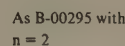
B-00294



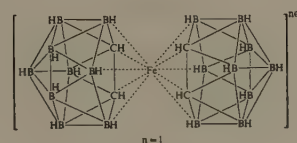
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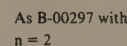
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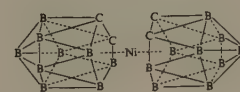
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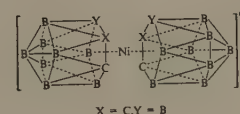
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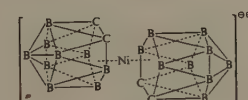
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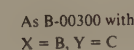
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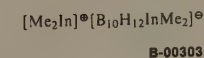
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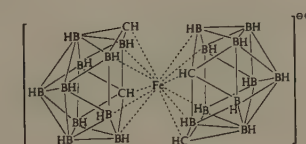
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B-00302



B-00303



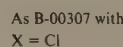
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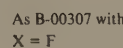
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B-00307



B-00308



B-00309



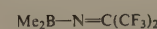
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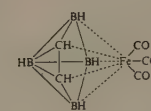
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B-00316



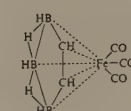
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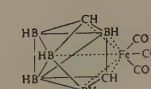
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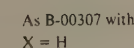
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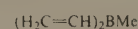
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B-00322



B-00323



B-00324



B-00325



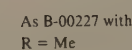
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B-00327



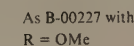
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B-00329



B-00330



B-00331



B-00332



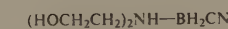
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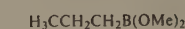
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B-00336



B-00337



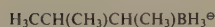
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B-00339



B-00340



B-00341

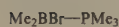


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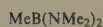
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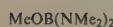
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B-00344



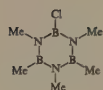
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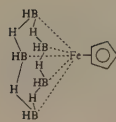
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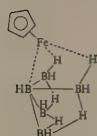
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B-00348



B-00349



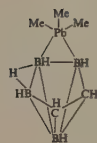
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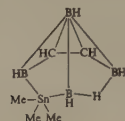
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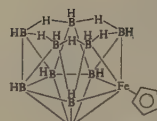
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B-00353



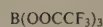
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B-00355



B-00356



B-00357



B-00358



B-00359



B-00360



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B-00362



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B-00366



B-00367



B-00368



B-00369



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B-00376



B-00378



B-00379



B-00380



B-00381



B-00382



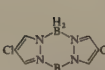
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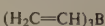
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B-00385



B-00386



B-00387



B-00388



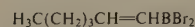
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B-00390



B-00391



B-00392



B-00393



B-00394



B-00395



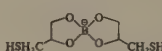
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B-00397



B-00398



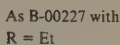
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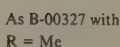
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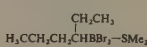
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B-00402



B-00403



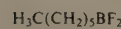
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B-00405



B-00406



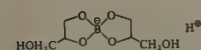
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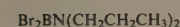
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B-00409



B-00410



B-00411



B-00412



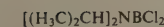
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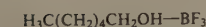
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B-00415



B-00416



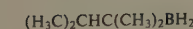
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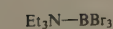
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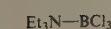
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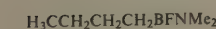
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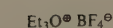
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B-00422



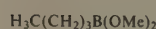
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B-00424



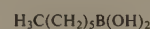
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B-00426



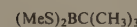
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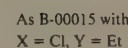
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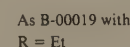
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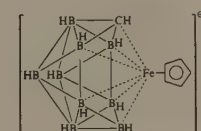
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B-00431



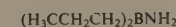
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B-00433



B-00434



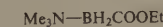
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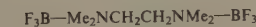
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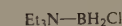
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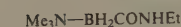
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B-00439



B-00440



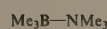
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B-00442



B-00443



B-00444



B-00445



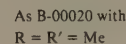
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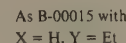
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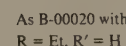
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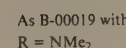
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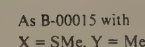
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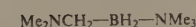
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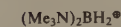
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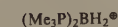
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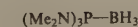
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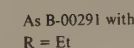
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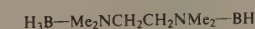
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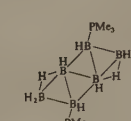
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B-00459



B-00460



B-00461



B-00462



B-00463



B-00464



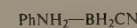
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B-00466



B-00467



B-00468



B-00469



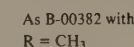
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B-00475



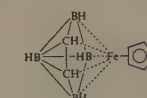
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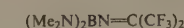
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B-00481



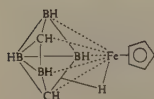
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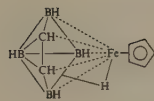
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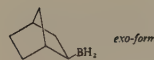
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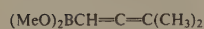
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B-00486



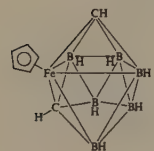
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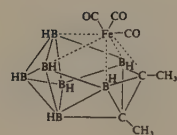
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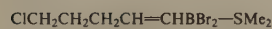
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B-00490



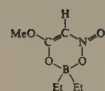
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B-00492



B-00493



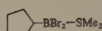
B-00494



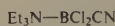
B-00496



B-00497



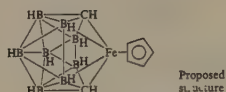
B-00498



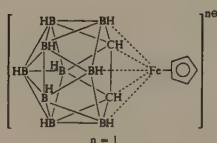
B-00499



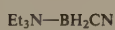
B-00500



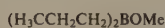
B-00501



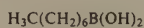
B-00502



B-00504



B-00505



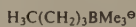
B-00506



B-00507



B-00508



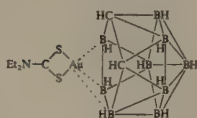
B-00509



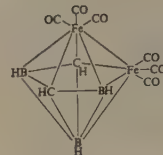
B-00510



B-00511



B-00512



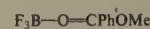
B-00513



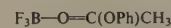
B-00514



B-00515



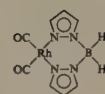
B-00516



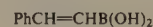
B-00517



B-00518



B-00519



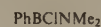
B-00520



B-00521



B-00524



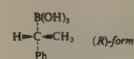
B-00525



B-00526



B-00527



B-00528



B-00529



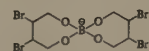
B-00530



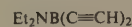
B-00531



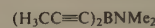
B-00532



B-00533



B-00534



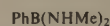
B-00535



B-00536



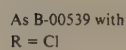
B-00537



B-00538



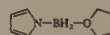
B-00539



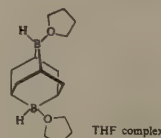
B-00540



B-00541



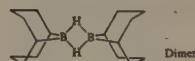
B-00542



B-00543



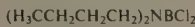
B-00544



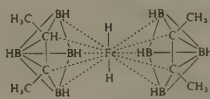
B-00545



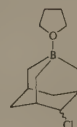
B-00546



B-00563



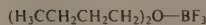
B-00584



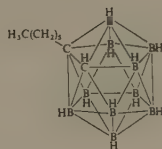
B-00595



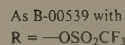
B-00547



B-00566



B-00585



B-00596



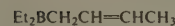
B-00548



B-00566



B-00567



B-00549



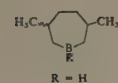
B-00568



B-00550



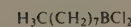
B-00569



B-00551



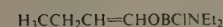
B-00570



B-00552



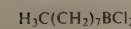
B-00571



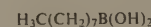
B-00553



B-00572



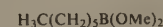
B-00554



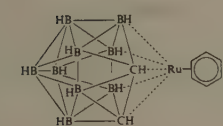
B-00573



B-00555



B-00574



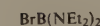
B-00556



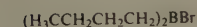
B-00575



B-00557



B-00576



B-00558



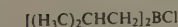
B-00577



B-00559



B-00578



B-00561



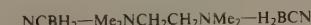
B-00579



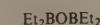
B-00562



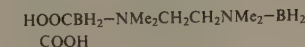
B-00580



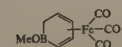
B-00581



B-00582



B-00583



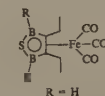
B-00586



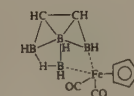
B-00587



B-00588



B-00589



B-00590



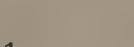
B-00591



B-00592



B-00593



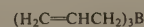
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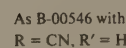
B-00597



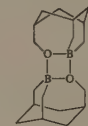
B-00598



B-00599



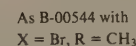
B-00600



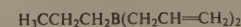
B-00601



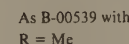
B-00602



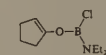
B-00603



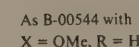
B-00604



B-00605



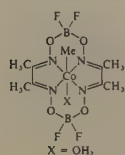
B-00606



B-00607



B-00608



B-00609

As B-00546 with
R = Me, R' = H

B-00610

As B-00397 with
R = CH₃

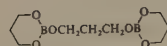
B-00611



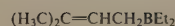
B-00612



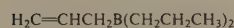
B-00613



B-00614



B-00615



B-00616



B-00617

As B-00555 with
R = CH₂CH₃

B-00618



B-00619



B-00620



B-00621



B-00622



B-00623



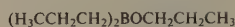
B-00624



B-00625



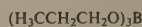
B-00626



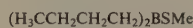
B-00627



B-00628



B-00629



B-00630



B-00631



B-00632

R = CH₂CH₂CH₃

B-00633



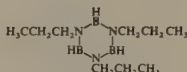
B-00634



B-00635

As B-00015 with
X = Et, Y = Me

B-00636



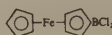
B-00637



B-00638

As B-00015 with
X = NMe₂, Y = Me

B-00639



B-00640

As B-00320 with
R = Ph

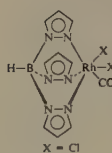
B-00641



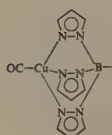
B-00642



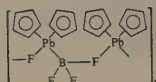
B-00643



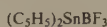
B-00644



B-00645



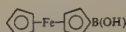
B-00646



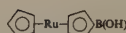
B-00647

As B-00644 with
X = I

B-00648



B-00649



B-00650



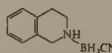
B-00651



B-00652

As B-00227 with
R = Ph

B-00653



B-00654



B-00655



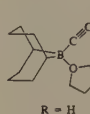
B-00656



B-00657



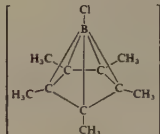
B-00658



B-00659



B-00660



B-00661



B-00662

As B-00660 with
X = Cl

B-00663



B-00664

As B-00660 with
X = I

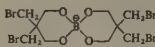
B-00665



B-00666



B-00667



B-00668



B-00669



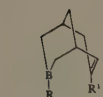
B-00683



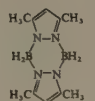
B-00696

Et₂BO(CH₂)₅CH₃

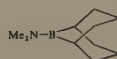
B-00713

R = OMe, R' = CH₃Cl

B-00670



B-00684



B-00697

EtB(OCH₂CH₂CH₂CH₃)₂

B-00714

EtB[OC(CH₃)₃]₂

B-00715

Et₂NB(C≡CCH₃)₂

B-00671



B-00685



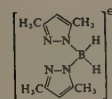
B-00698

(H₃CCH₂CH₂)₂BS(CH₂)₃CH₃

B-00716

Et₂BS(CH₂)₅CH₃

B-00717



B-00672

As B-00544 with
X = OMe, R = -CH₂BH₂

B-00699

MeB(CH₂CH₂CH₃)₃⁹

B-00718

(H₃CCH₂CH₂)₂BCH₂CH=CHCH₃

B-00700

(H₃CCH₂CH₂CH₂)₂BNMe₂

B-00719

H₃CCH=CHCH(BEt₂)CH₂CH₃

B-00701

[(H₃C)₃C]₂BNMe₂

B-00720



B-00673

H₂C=C(CH₃)CH₂B(CH₂CH₂CH₃)₂

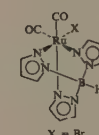
B-00702

Et₂BOC(CH₃)₂CH₂CH=CH₂

B-00703

Et₂BOCH(CH₂CH₃)CH₂CH=CH₂

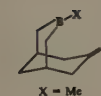
B-00704



B-00721

As B-00721 with
X = Cl

B-00722

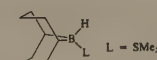


X = Me

B-00674



B-00689



B-00705

[H₃C(CH₂)₄]₂BBr

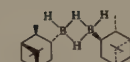
B-00706

As B-00721 with
X = I

B-00723

PhB(NMe₂)₂

B-00675



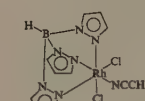
B-00690



B-00676



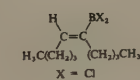
B-00707



B-00724

As B-00598 with
R = OMe

B-00677



B-00691

As B-00674 with
X = OMe

B-00678



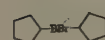
B-00692

As B-00539 with
R = -OAc

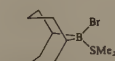
B-00679

As B-00544 with
X = OMe, R = CH₃

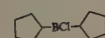
B-00693



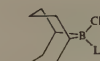
B-00680



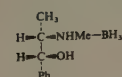
B-00694



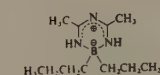
B-00681



B-00695



B-00682



B-00708

(H₃C)₂CH(CH₃)CHBHCH(CH₃)CH
(CH₃)₂

B-00709

H₃C(CH₂)₇BI₂-SMe₂

B-00710

(H₃CCH₂CH₂)₂BO(CH₂)₃CH₃

B-00711

(H₃CCH₂CH₂CH₂)₂BOEt

B-00712



B-00725



B-00726



B-00727

As B-00327 with
R = Ph

B-00728



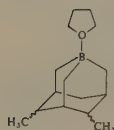
B-00729



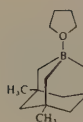
B-00730

As B-00591 with
R = Me

B-00731



B-00732



B-00733

As B-00539 with
R = —CH₂CH=CH₂

B-00735

As B-00670 with
R = OMe, R' = CH₂OMe

B-00736

As B-00539 with
R = —CH(CH₃)₂

B-00737



B-00738

As B-00544 with
X = Me, R = CH₂OMe

B-00739

As B-00544 with
X = OMe, R = —CH₂OMe

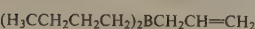
B-00740



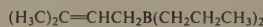
B-00741

As B-00738 with
R = MeS—

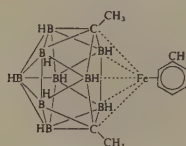
B-00742



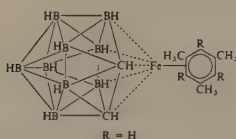
B-00743



B-00744



B-00745



B-00746

As B-00705 with
L = H₂NCH(CH₃)₂

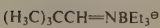
B-00747

As B-00705 with
L = H₂NCH₂CH₂CH₃

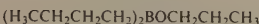
B-00748

As B-00705 with
L = Me₃N

B-00749



B-00750



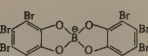
B-00751

As B-00633 with
R = (CH₂)₃CH₃

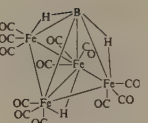
B-00752

As B-00342 with
R = CH₂CH₂CH₃

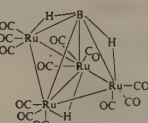
B-00753



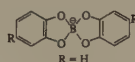
B-00754



B-00755



B-00756



B-00757



B-00758



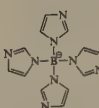
B-00759



B-00760



B-00761



B-00762



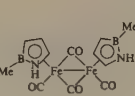
B-00763



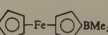
B-00764



B-00765



B-00766



B-00767



B-00768



B-00769



B-00770

As B-00670 with
R = —CH₂CH=CH₂, R' = CH₂Cl

B-00771



B-00772



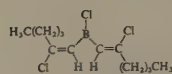
B-00773



B-00774



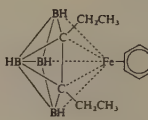
B-00775



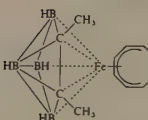
B-00776



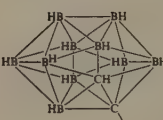
B-00777



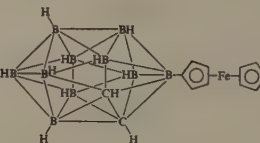
B-00778



B-00779



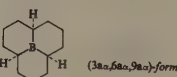
B-00780



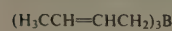
B-00781

As B-00539 with
R = —CH₂CH=CHCH₃

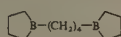
B-00782



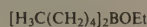
B-00783



B-00784



B-00801



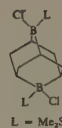
B-00810



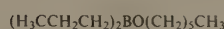
B-00838



B-00785

L = Me₂S

B-00802



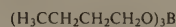
B-00819



B-00830



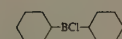
B-00786



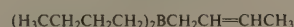
B-00820



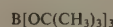
B-00840



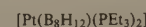
B-00787



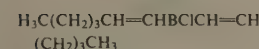
B-00803



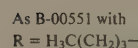
B-00821



B-00841



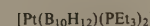
B-00788



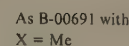
B-00804



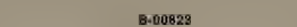
B-00822



B-00842



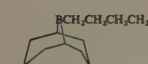
B-00805



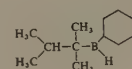
B-00823



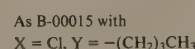
B-00843



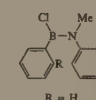
B-00789



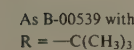
B-00806



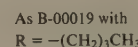
B-00825



B-00844



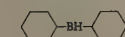
B-00790



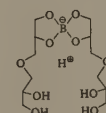
B-00826



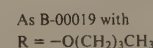
B-00845



B-00791



B-00807



B-00827



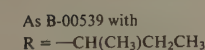
B-00792



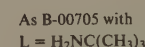
B-00808



B-00828



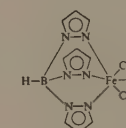
B-00793



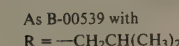
B-00809



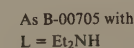
B-00829



B-00846



B-00794



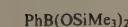
B-00810



B-00830



B-00847



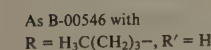
B-00795



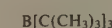
B-00811



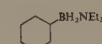
B-00831



B-00796



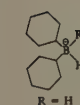
B-00812



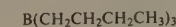
B-00832



B-00848



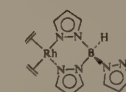
B-00797



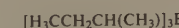
B-00813



B-00833



B-00850



B-00814

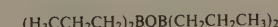


B-00834

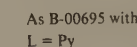
B-00798



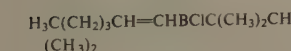
B-00815



B-00835



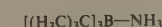
B-00851



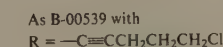
B-00799



B-00816



B-00836



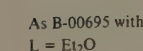
B-00852



B-00817



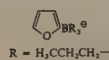
B-00837



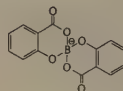
B-00800

As B-00705 with
L = pyridine

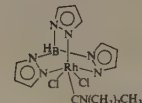
B-00853



B-00897



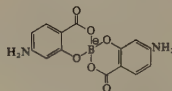
B-00883



B-00897

As B-00546 with
R = Ph, R' = H

B-00898



B-00884

PhCH=CHBClC(CH3)2CH(CH3)2

B-00899



B-00854

As B-00544 with
X = -C(CH3)3, R = CH3

B-00868

As B-00854 with
R = -CH(CH3)CH(CH3)2

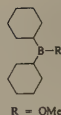
B-00869

Rh(HCONMe2)Py2Cl2(BH4)

B-00855



B-00856



B-00870



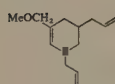
B-00885

Ph2BEt

B-00886



B-00901



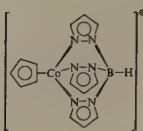
B-00857

As B-00870 with
R = SMe

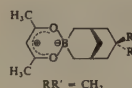
B-00871

As B-00797 with
R = Me

B-00872



B-00887



B-00902



B-00858

(H3CCH2CH2)3BC≡COEt⁺

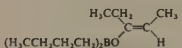
B-00873

Ph2BOEt

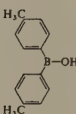
B-00888

As B-00670 with
R = -CH2CH=CH2, R' = -CH2OMe

B-00859



B-00874



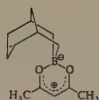
B-00889

As B-00705 with
L = 2-methylpyridine

B-00903

As B-00705 with
L = 4-methylpyridine

B-00904



B-00860



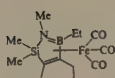
B-00875

Me2BPh2⁺

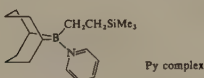
B-00890



B-00905



B-00861



B-00876

Ph2BNMe2

B-00891



B-00906

As B-00854 with
R = cyclopentyl

B-00882

H3C(CH2)4B(OCH2CH2CH2CH3)2

B-00877



B-00892

As B-00906 with
R = -C≡C(CH3)3

B-00907

(H3CCH2CH2CH2)2BS(CH2)4CH3

B-00878



B-00893

As B-00854 with
R = -CH=CHCH2CH2CH3

B-00893

[(H3C)2CHCH2]3BMe⁺

B-00879



B-00894

As B-00546 with
R = cyclopentyl, R' = H

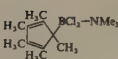
B-00864

(H3CCH2CH2CH2)3BMe⁺

B-00880

As B-00906 with
R = -C≡C(CH2)3CH3

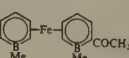
B-00908



B-00865

Me2NCH2CH2CH2B(CH2CH2CH2CH3)2

B-00881



B-00895

As B-00902 with
R = H, R' = CH3

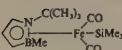
B-00910

(H3CCH2CH2CH2)2BCH2CH2CH2NHEt

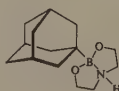
B-00882

As B-00854 with
R = Ph

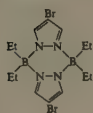
B-00896



B-00886



B-00911



B-00912

As B-00906 with
R = cyclohexyl

B-00913



R = $-\text{CH}_2-\text{Cyclohexyl}$

B-00914

As B-00914 with
R = $-\text{CH}=\text{CH}(\text{CH}_3)_3$

B-00915

As B-00914 with
R = $-\text{C}(\text{CH}_2\text{CH}_3)=\text{CHCH}_2\text{CH}_3$

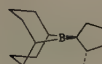
B-00916

As B-00914 with
R = $-\text{CH}=\text{CH}(\text{CH}_2)_3\text{CH}_3$

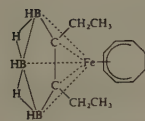
B-00917

As B-00914 with
R = $-(\text{CH}_2)_3\text{CH}=\text{CHCH}_3$

B-00918



B-00919



B-00920

As B-00914 with
R = $-\text{CH}(\text{CH}_2\text{CH}_3)\text{CH}_2\text{CH}_2\text{CH}_3$

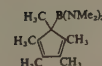
B-00921

As B-00914 with
R = $-(\text{CH}_2)_5\text{CH}_3$

B-00922

As B-00914 with
R = $-\text{C}(\text{CH}_3)_2\text{CH}(\text{CH}_3)_2$

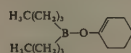
B-00923



B-00924

As B-00705 with
L = $-\text{N}(\text{Cyclohexyl})$

B-00925



B-00926

$(\text{H}_3\text{CCH}_2\text{CH}_2\text{CH}_2)_3\text{BC}\equiv\text{CH}^\oplus$

B-00927

As B-00546 with
R = $-\text{C}(\text{CH}_3)_2\text{CH}(\text{CH}_3)_2$, R' = H

B-00928

As B-00746 with
R = CH_3

B-00929

$(\text{H}_3\text{C})_2\text{CHC}(\text{CH}_3)_2\text{BCl}(\text{CH}_2)_7\text{CH}_3$

B-00930

As B-00705 with
L = Et_3N

B-00931

$(\text{H}_3\text{C})_2\text{CHC}(\text{CH}_3)_2\text{B}(\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3)_2$

B-00932

As B-00705 with
L = $\text{Me}_2\text{NCH}_2\text{CH}_2\text{NMe}_2$

B-00933

$[\text{H}_3\text{C}(\text{CH}_2)_4]_2\text{BOCH}_2\text{CH}_2\text{CH}_2\text{CH}_3$

B-00935

$(\text{H}_3\text{CCH}_2\text{CH}_2\text{CH}_2)_2\text{BO}(\text{CH}_2)_5\text{CH}_3$

B-00936

$\text{H}_3\text{C}(\text{CH}_2)_5\text{B}(\text{OCH}_2\text{CH}_2\text{CH}_2\text{CH}_3)_2$

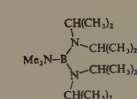
B-00937

$(\text{H}_3\text{CCH}_2\text{CH}_2\text{CH}_2)_2\text{BS}(\text{CH}_2)_5\text{CH}_3$

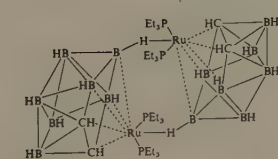
B-00938



B-00939



B-00940



B-00941

$\text{Ph}_2\text{B}-\text{N}=\text{C}(\text{CF}_3)_2$

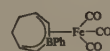
B-00942



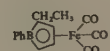
B-00943



B-00944



B-00945



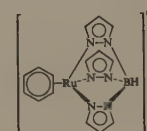
B-00946



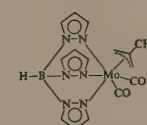
B-00947

As B-00844 with
R = CH_3

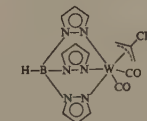
B-00948



B-00949



B-00950



B-00951



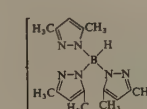
B-00952



B-00953

As B-00544 with
X = OMe, R = Ph

B-00954



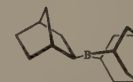
B-00955

As B-00705 with
L = 2,6-dimethylpyridine

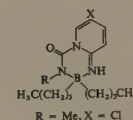
B-00956

As B-00705 with
L = 2-Ethylpyridine

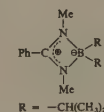
B-00957



B-00958



B-00959



B-00960

As B-00960 with
R = $\text{CH}_2\text{CH}_2\text{CH}_3$

B-00961

As B-00856 with
R = Et



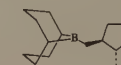
B-00962

As B-00902 with
R, R' = H, $-\text{CH}_2\text{OMe}$

B-00963

As B-00959 with
R = Me, X = H

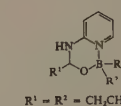
B-00964



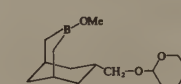
B-00965



B-00966



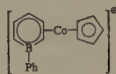
B-00967



B-00968

As B-00546 with
 $R = H_3C(CH_2)_3-$, $R' = H_2C=CHCH_2-$

B-00969



B-00985

As B-00705 with
 $L = 2\text{-Isopropylpyridine}$

B-01001

As B-00546 with
 $R = R' = H_3C(CH_2)_3-$

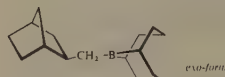
B-01015



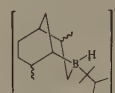
B-00970

As B-00726 with
 $R = Ph$

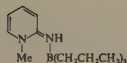
B-00986



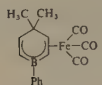
B-01002



B-01016



B-00971



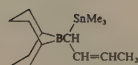
B-00987

As B-00659 with
 $R = -(CH_2)_5CH_3$

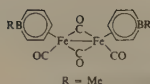
B-01003

$[(H_3C)_2CHCH(CH_3)]_2BCBr=CH$
 $(CH_2)_3CH_3$

B-01017



B-00972



B-00988

As B-00670 with
 $R = -CH_2CH=CH_2$, $R' = -(CH_2)_4CH_3$

B-01004

$[H_3C(CH_2)_3]_3BC\equiv COEt^{\ominus}$

B-01018

As B-00953 with
 $R = \text{cyclooctyl}$

B-01005

$[(H_3C)_2CHCH(CH_3)]_2BCH=CH$
 $(CH_2)_3CH_3$

B-01019

$[(H_3C)_2CHCH(CH_3)]_2BCH=CHCH_2$
 CH_2CH_2Cl

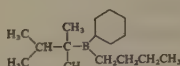
B-00973

As B-00659 with
 $R = Ph$

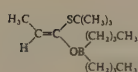
B-00989



B-01006



B-01020



B-00975

As B-00664 with
 $R = Ph$, $R' = CH_3$

B-00990



B-01007

As B-00551 with
 $R = H_3C(CH_2)_7-$

B-01021

$[H_3C(CH_2)_4]_3B$

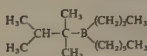
B-00976

$Ph_2BO(CH_2)_3CH_3$

B-00991

As B-00953 with
 $R = -CH=CH(CH_2)_5CH_3$

B-01007



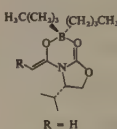
B-01022

$[(H_3C)_2CHCH(CH_3)]_3B$

B-00977

$Ph_2BOCH_2CH(CH_3)_2$

B-00992



B-01008

$(H_3CCH_2CH_2CH_2)_4B^{\ominus}$

B-01023

$H_3CCH_2CH_2B[O(CH_2)_5CH_3]_2$

B-00978

$Ph_2BS(CH_2)_3CH_3$

B-00993

As B-00953 with
 $R = -CH=CHPh$

B-00994

$CIB[N(CH_2CH_2CH_2CH_3)_2]_2$

B-01024

$[H_3C(CH_2)_4O]_3B$

B-00979

As B-00953 with
 $R = -CH=CHPh$

B-00994

As B-00867 with
 $R = -CH(CH_3)CH_2CH_3$

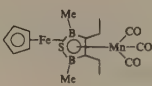
B-01009

$(H_3CCH_2CH_2CH_2)_2BOB(CH_2CH_2CH_2C-$
 $H_3)_2$

B-01025

$[(H_3C)_2CHCH(CH_3)]_3BH^{\ominus}$

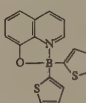
B-00980



B-00995

As B-00867 with
 $R = -CH_2CH(CH_3)_2$

B-01010



B-01026

$Me_3N-B(CH_2CH_2CH_2CH_3)_3$

B-00981



B-00986

As B-00586 with
 $R = Ph$, $R' = H$

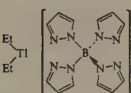
B-01011



B-01027



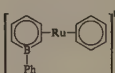
B-00982



B-00987

As B-00738 with
 $R = -C(CH_3)_2CH(CH_3)_2$

B-01012



B-01028



B-00983

As B-00953 with
 $R = -CH_2CH_2Ph$

B-00988



B-01013



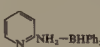
B-00984

As B-00953 with
 $R = -C\equiv C-\text{cyclohexyl}$

B-00999

As B-01006 with
 $R = -(CH_2)_7CH_3$

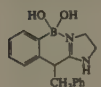
B-01014



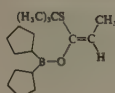
B-01029

As B-00741 with
 $R = Ph$

B-01030



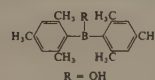
B-01031



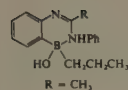
B-01044



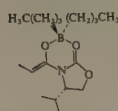
B-01059



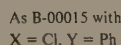
B-01075



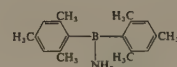
B-01032



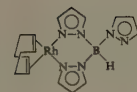
B-01045



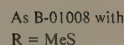
B-01051



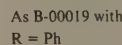
B-01076



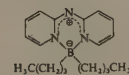
B-01033



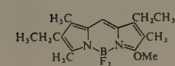
B-01046



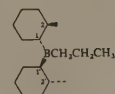
B-01062



B-01077



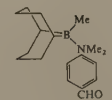
B-01034



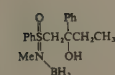
B-01047



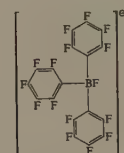
B-01064



B-01078



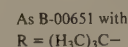
B-01035



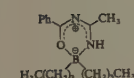
B-01048



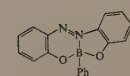
B-01065



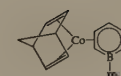
B-01079



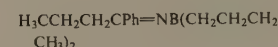
B-01036



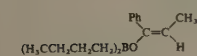
B-01049



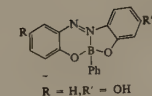
B-01067



B-01081



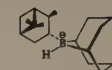
B-01037



B-01050



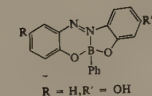
B-01068



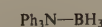
B-01082



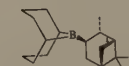
B-01038



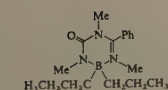
B-01051



B-01069



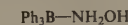
B-01083



B-01039



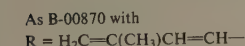
B-01052



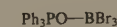
B-01070



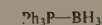
B-01084



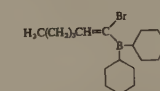
B-01040



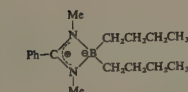
B-01053



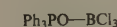
B-01071



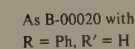
B-01085



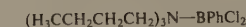
B-01041



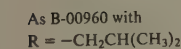
B-01054



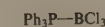
B-01072



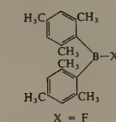
B-01088



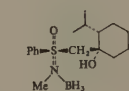
B-01042



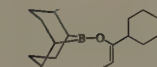
B-01055



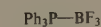
B-01073



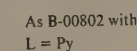
B-01087



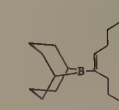
B-01043



B-01057



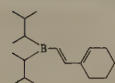
B-01074



B-01088



B-01058



B-01089

As B-00870 with
X = $-\text{CH}=\text{CH}(\text{CH}_2)_3\text{CH}_3$

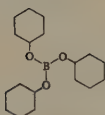
B-01090



B-01091



B-01092



B-01093

As B-00670 with
R = $\text{H}_3\text{C}(\text{CH}_2)_4\text{S}-$, R' = $-(\text{CH}_2)_4\text{CH}_3$

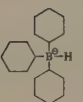
B-01094

As B-00019 with
R = cyclohexyl

B-01095



B-01096



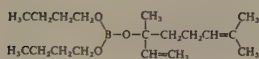
B-01097

As B-00870 with
R = $\text{H}_3\text{CCH}_2\text{CH}_2\text{CH}(\text{CH}_2\text{CH}_3)-$

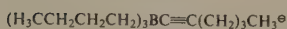
B-01098

As B-00870 with
R = $-(\text{CH}_2)_5\text{CH}_3$

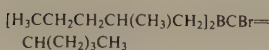
B-01099



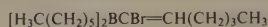
B-01100



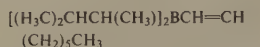
B-01101



B-01102



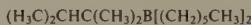
B-01103



B-01104



B-01105



B-01106



B-01107



B-01108



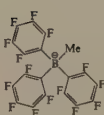
B-01109



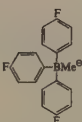
B-01110



B-01111



B-01112



B-01113

As B-00462 with
X = Ph

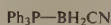
B-01114



B-01115

As B-01050 with
R = CH_3 , R' = H

B-01116



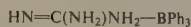
B-01117



B-01118

As B-00967 with
R¹ = CH_3 , R² = Ph

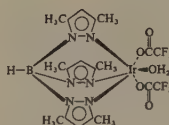
B-01119



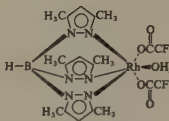
B-01120



B-01121



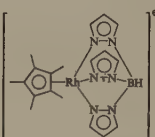
B-01122



B-01123

As B-01073 with
X = Me

B-01124



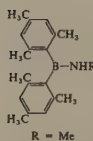
B-01125

As B-01075 with
R = OMe

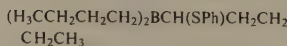
B-01126

As B-01075 with
R = $-\text{SMe}$

B-01127



B-01128



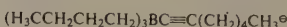
B-01129

As B-00670 with
R = $-\text{O}(\text{CH}_2)_5\text{CH}_3$, R' = $-(\text{CH}_2)_4\text{CH}_3$

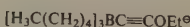
B-01130

As B-00670 with
R = $-\text{S}(\text{CH}_2)_5\text{CH}_3$, R' = $-(\text{CH}_2)_4\text{CH}_3$

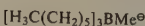
B-01131



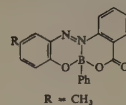
B-01132



B-01133



B-01134



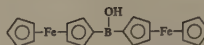
B-01135

As B-01135 with
R = OMe

B-01136



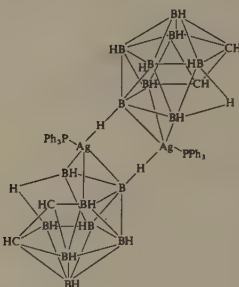
B-01137



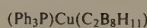
B-01138

As B-00757 with
R = $(\text{H}_3\text{C})_3\text{C}-$

B-01139



B-01140



B-01141

As B-01075 with
R = Et

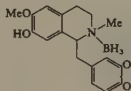
B-01142

As B-00959 with
R = Ph, X = Cl

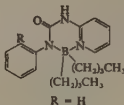
B-01143

As B-01075 with
R = $-\text{SEt}$

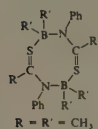
B-01144



B-01145



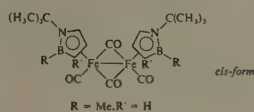
B-01146



B-01147

As B-00870 with
 $R = -\text{CH}=\text{CHPh}$

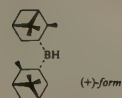
B-01148



B-01149

$(\text{H}_3\text{CCH}_2\text{CH}_2\text{CH}_2)_3\text{BC}\equiv\text{CPh}^\ominus$

B-01150



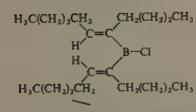
B-01151

As B-00539 with
 $R = \text{OCH}=\text{CH}(\text{CH}_2)_8\text{COOMe}$

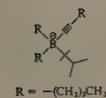
B-01152

As B-00870 with
 $R = -\text{CH}=\text{CH}(\text{CH}_2)_5\text{CH}_3$

B-01153



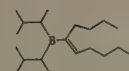
B-01154



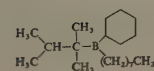
B-01155

$[\text{H}_3\text{C}(\text{CH}_2)_5]_3\text{BC}\equiv\text{CH}^\ominus$

B-01156



B-01157



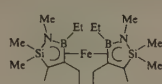
B-01158

$\text{H}_3\text{C}(\text{CH}_2)_3\text{OCH}_2\text{CH}_2\text{OB}[(\text{OCH}_2\text{CH}_2)_3\text{OMe}]_2$

B-01159

$[(\text{H}_3\text{C})_2\text{CHCH}_2\text{CH}_2]_4\text{B}^\ominus$

B-01160



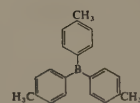
B-01161

As B-00015 with
 $X = \text{C}_6\text{F}_5, Y = \text{Me}$

B-01162

$(\text{PhCH}_2)_3\text{B}$

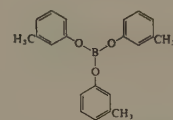
B-01163



B-01164

$(\text{PhCH}_2\text{O})_3\text{B}$

B-01165



B-01166

$\text{Ph}_3\text{P}-\text{BH}_2\text{COOEt}$

B-01167

$\text{Ph}_3\text{P}-\text{BH}_2\text{CONHEt}$

B-01168

$\text{Me}_2\text{NCONH}_2-\text{BPh}_3$

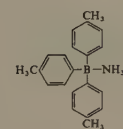
B-01169

$\text{Ph}_3\text{N}-\text{BMe}_3$

B-01170

$\text{Ph}_3\text{B}-\text{NMe}_3$

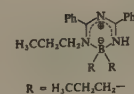
B-01171



B-01172

As B-00015 with
 $X = \text{Ph}, Y = \text{Me}$

B-01173



B-01174

As B-01073 with
 $X = \text{H}_3\text{CCH}_2\text{CH}_2-$

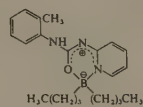
B-01175

As B-01075 with
 $R = -\text{OCH}(\text{CH}_3)_2$

B-01176

As B-01128 with
 $R = \text{CH}(\text{CH}_3)_2$

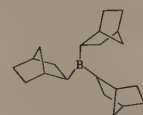
B-01177



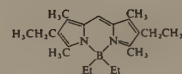
B-01178

As B-01146 with
 $R = \text{CH}_3$

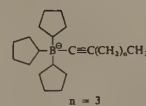
B-01179



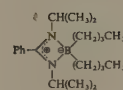
B-01180



B-01181



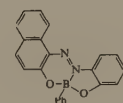
B-01182



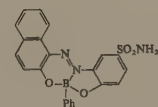
B-01183



B-01184



B-01185



B-01186

As B-00692 with
 $R = \text{Ph}$

B-01187



B-01188



B-01189

As B-00769 with
 $R = \text{Ph}$

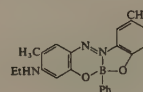
B-01190



B-01191

As B-00770 with
 $R = \text{Ph}$

B-01192



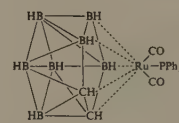
B-01193

As B-01032 with
 $R = \text{Ph}$

B-01194

$\text{H}_3\text{C}(\text{CH}_2)_3\text{BPh}_3^\ominus$

B-01195



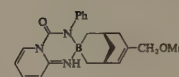
B-01196

$\text{Ph}_3\text{B}-\text{NH}_2(\text{CH}_2)_3\text{CH}_3$

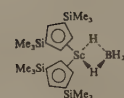
B-01197

$(\text{H}_3\text{C})_2\text{CHCH}_2\text{NH}_2-\text{BPh}_3$

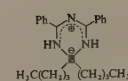
B-01198



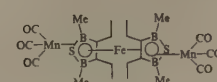
B-01199



B-01200



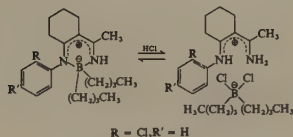
B-01201



B-01202



B-01203



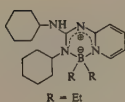
B-01204

As B-01204 with
R = H, R' = Cl

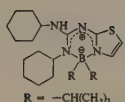
B-01205

As B-01204 with
R = R' = H

B-01206



B-01207



B-01208

As B-00691 with
X = Cyclohexyl

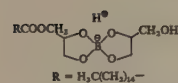
B-01209

As B-00867 with
R = $-(CH_2)_5CH_3$

B-01210

$(H_3C)_2CHC(CH_3)_2B[(CH=CH(CH_2)_5CH_3)_2]$

B-01211



B-01212

$[H_3C(CH_2)_7]_2BCBr=CH(CH_2)_3CH_3$

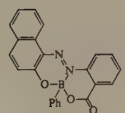
B-01213

$(H_3C)_2CHC(CH_3)_2B[(CH_2)_7CH_3]_2$

B-01214

$[(H_3C)_2CHCH(CH_3)]_2BH-H_2NCH_2CH_2NH_2-BH[CH(CH_3)CH(CH_3)_2]_2$

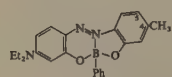
B-01215



B-01216

As B-00307 with
X = Ph

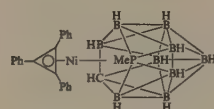
B-01217



B-01218

As B-00856 with
R = Ph

B-01220



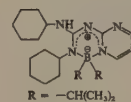
B-01221

As B-01204 with
R = H, R' = CH_3

B-01222

As B-01182 with
n = 5

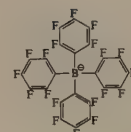
B-01223



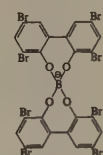
B-01224

$H_3C(CH_2)_5C\equiv CB[(CH_2)_4CH_3]_3^{\oplus}$

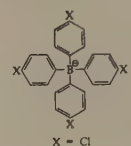
B-01225



B-01226



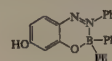
B-01227



B-01228

As B-01228 with
X = F

B-01229



B-01230

$Ag^{\oplus}Ph_4B^{\ominus}$

B-01231

$Cs^{\oplus}Ph_4B^{\ominus}$

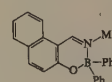
B-01232

$K^{\oplus}Ph_4B^{\ominus}$

B-01233

$[LiPh_4B]_n$

B-01234



B-01235



B-01236



B-01237



B-01238

$Rb^{\oplus}Ph_4B^{\ominus}$

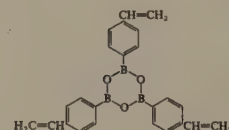
B-01239

$Tl^{\oplus}Ph_4B^{\ominus}$

B-01240

Ph_2BOBPh_2

B-01241



B-01242

$H_3C(CH_2)_3C\equiv CBPh_3^{\oplus}$

B-01243

$NH_4^{\oplus}Ph_4B^{\ominus}$

B-01244

As B-01075 with
R = 4-Chlorophenoxy

B-01245

As B-01075 with
R = $-OPh$

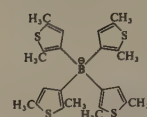
B-01246

As B-01075 with
R = $-SPh$

B-01247

As B-01128 with
R = Ph

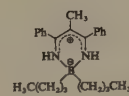
B-01248



B-01249

Et_3N-BPh_3

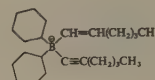
B-01250



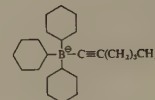
B-01251

As B-01207 with
R = $-CH_2CH_2CH_3$

B-01252



B-01253



B-01254

As B-01212 with
R = $H_3C(CH_2)_7CH=CH(CH_2)_7-$

B-01255

As B-01212 with
R = $H_3C(CH_2)_{16}-$

B-01256

$[H_3C(CH_2)_5]_3BC\equiv C(CH_2)_3CH_3^{\oplus}$

B-01257

$[H_3C(CH_2)_7]_3B$

B-01258

$[H_3C(CH_2)_7O]_3B$

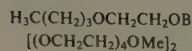
B-01259

$B[OCH_2CH(CH_2CH_3)CH_2CH_2CH_2CH_3]_3$

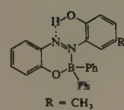
B-01260

$H_3C(CH_2)_3O(CH_2CH_2O)_3B[(OCH_2CH_2)_3OMe]_2$

B-01261



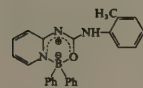
B-01262



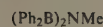
B-01263

As B-01263 with
R = OMe

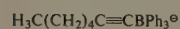
B-01264



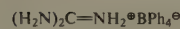
B-01265



B-01266



B-01267



B-01268

As B-01075 with
R = 4-Methoxyphenoxy

B-01269

As B-01075 with
R = $-\text{SCH}_2\text{Ph}$

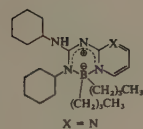
B-01270

As B-01075 with
R = 4-methylphenylthio

B-01271

As B-01128 with
R = $-\text{CH}_2\text{Ph}$

B-01272



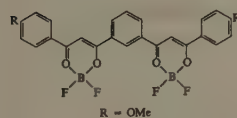
B-01273



B-01274



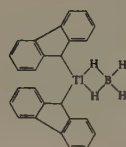
B-01275



B-01276

As B-00988 with
R = Ph

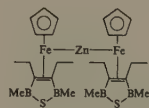
B-01277



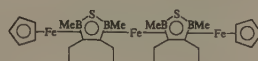
B-01278



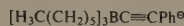
B-01279



B-01280



B-01281



B-01282

As B-01273 with
X = CH

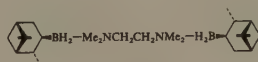
B-01283

As B-01155 with
R = $-(\text{CH}_2)_5\text{CH}_3$

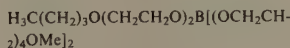
B-01284



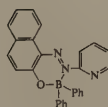
B-01285



B-01286



B-01287



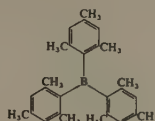
B-01288



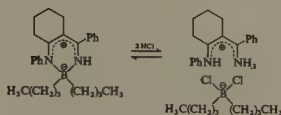
B-01289

As B-01174 with
R = Ph

B-01290



B-01291



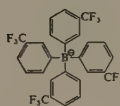
B-01292



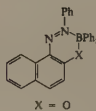
B-01293



B-01294



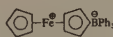
B-01295



B-01297

As B-01297 with
X = NH

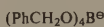
B-01298



B-01299

As B-01276 with
R = CH_2CH_3

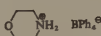
B-01300



B-01301



B-01302



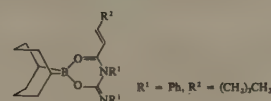
B-01303



B-01304

As B-01306 with
R¹ = Ph; R² = $-\text{C}(\text{CH}_3)_3$

B-01305



B-01306

As B-01208 with
R = Ph

B-01307

As B-01075 with
R = 4-*tert*-butylphenoxy

B-01308

As B-01306 with
R¹ = cyclohexyl, R² = $-(\text{CH}_2)_3\text{CH}_3$

B-01309



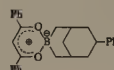
B-01310



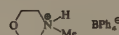
B-01311



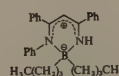
B-01312



B-01313



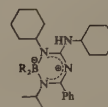
B-01314



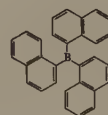
B-01315

As B-01224 with
R = Ph

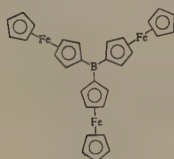
B-01316



B-01317



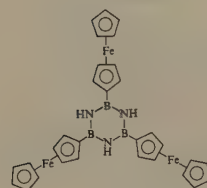
B-01318



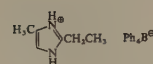
B-01319

As B-01311 with
R = CH₃

B-01320



B-01321



B-01322

As B-01147 with
R = Ph, R' = Me

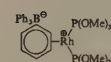
B-01323



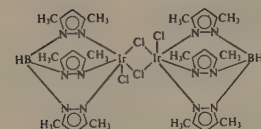
B-01324

As B-01207 with
R = Ph

B-01325



B-01326



B-01327



B-01328



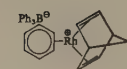
B-01329



B-01330



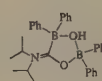
B-01331



B-01332



B-01333



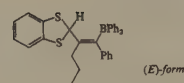
B-01334

As B-01317 with
R = (H₃C)₂CHCH₂-

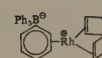
B-01335



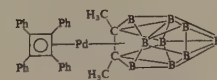
B-01336



B-01337



B-01338



B-01339

As B-01149 with
R = Ph, R' = CH₃

B-01340



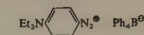
B-01341



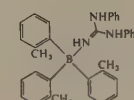
B-01342



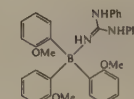
B-01343



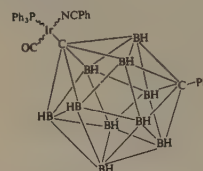
B-01344



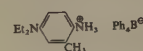
B-01345



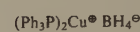
B-01346



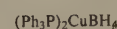
B-01350



B-01351



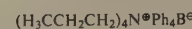
B-01352



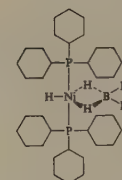
B-01353

As B-01306 with
R¹ = 1-naphthyl, R² = -(CH₂)₃CH₃

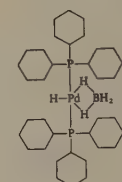
B-01354



B-01355



B-01356



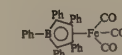
B-01357



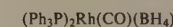
B-01358



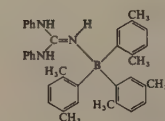
B-01359



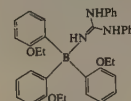
B-01360



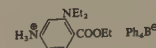
B-01361



B-01362



B-01363



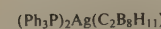
B-01365



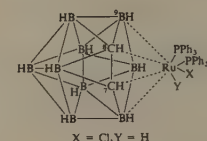
B-01366



B-01367



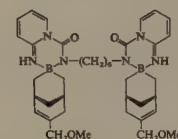
B-01368



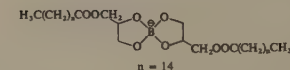
B-01369

As B-01369 with
X = Y = H

B-01371



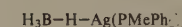
B-01373



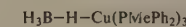
B-01374

As B-01369 with
XY = CO

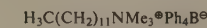
B-01375



B-01377



B-01378



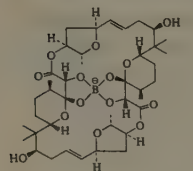
B-01379

As B-01147 with
R = CH₃, R' = Ph

B-01380



B-01381



B-01382

As B-01374 with
n = 16

B-01386

$\text{Ph}_3\text{PMc}^+\text{Ph}_4\text{B}^-$

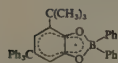
B-01387

$[(\text{H}_3\text{C})_2\text{CH}_2\text{CH}_2\text{CH}_2]_3\text{N}^+\text{Ph}_4\text{B}^-$

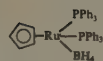
B-01388

$[(\text{H}_3\text{C})_2\text{CHCH}_2\text{CH}_2]_4\text{N}^+\text{Ph}_4\text{B}^-$

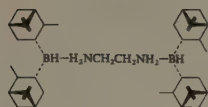
B-01389



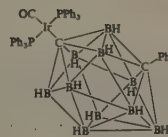
B-01383



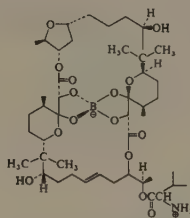
B-01384



B-01385



B-01390



B-01391



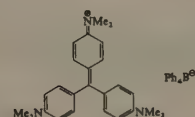
B-01392

$\text{Ph}_4\text{As}^+\text{Ph}_4\text{B}^-$

B-01393

$\text{Ph}_4\text{P}^+\text{Ph}_4\text{B}^-$

B-01394



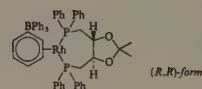
B-01395



B-01396

$[\text{H}_3\text{C}(\text{CH}_2)_{17}\text{O}]_3\text{B}$

B-01397



B-01398

BCl₃H[⊖]

B-00001

Trichlorohydroborate(1-), 10Cl
Trichloroborohydride



M 118.177 (ion)

Tetrabutylammonium salt: [69969-98-8].

C₁₆H₃₇BCl₃N M 360.644

Selective reducing agent. Moisture-sensitive cryst.
solid. Sol. THF, diglyme, arom. hydrocarbons; insol.
alkanes.

▷Dec. slowly at 110°, rapidly at 200°

Titov, L.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978,
1722; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 27, 1504
(*synth*, *ir*, *props*)

Kryshtal, G.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981,
1146; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 30, 907 (*use*)

Leach, J.B. *et al*, *J. Am. Chem. Soc.*, 1981, 103, 988 (*synth*,
nmr)

BFH₂

B-00002

Fluoroborane

Fluoroborine. Fluorodihydroboron
[27944-03-2]



M 31.824

Not prepd. in pure form, but known in a variety of
complexes.

Me₃P complex: [67226-44-2]. Fluorodihydro(trimethyl-
phosphine)boron, 10Cl.

C₃H₁₁BFP M 107.902

Less stable than trimethylamine complex.

Ph₃P complex: [67194-38-1]. Fluorodihydro(triphenyl-
phosphine)boron, 10Cl.

C₁₈H₁₇BFP M 294.114

Much less stable than the trimethylamine complex.

MeNH₂ complex: [67194-41-6]. Fluorodihydro(methyl-
amine)boron.

CH₇BFN M 62.881

Substantially more stable than trimethylamine
complex.

Me₂NH complex: [67194-40-5]. Fluorodihydro(di-
methylamine)boron, 10Cl.

C₂H₉BFN M 76.908

More stable than trimethylamine complex.

Me₃N complex: [35449-24-2]. Fluorodihydro(trimethyl-
amine)boron.

C₃H₁₁BFN M 90.935Walsh, A.D., *J. Chem. Soc.*, 1953, 2260 (*struct*)

Van Paasschen, J.M. *et al*, *Inorg. Nucl. Chem. Lett.*, 1972, 8,
879.

Dill, J.D. *et al*, *J. Am. Chem. Soc.*, 1975, 97, 3402.

Van Paasschen, J.M. *et al*, *J. Inorg. Nucl. Chem.*, 1976, 38,
2321.

Bernardi, F. *et al*, *J. Am. Chem. Soc.*, 1978, 100, 7205.Cassoux, P. *et al*, *J. Mol. Struct.*, 1978, 48, 25 (*microwave*)Van Paasschen, J.M. *et al*, *Inorg. Chem.*, 1978, 17, 3302.Hinde, A.L. *et al*, *J. Comput. Chem.*, 1980, 1, 118.BF₂H

B-00003

Difluoroborane, 10Cl, 9Cl
Difluoroborine

[13709-83-6]



M 49.815

Prototype of the alkylidifluoroborane series of compds.
Prepd. from solid boroxine and BF₃ (gas). Air- and
moisture-sensitive gas. ΔH_{f298K} –175.5 Kcalmol.⁻¹.

Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1959, 29, 3443 (*use*)Coyle, T.D. *et al*, *Proc. Chem. Soc., London*, 1964, 25 (*synth*)Porter, R.F. *et al*, *J. Phys. Chem.*, 1965, 69, 2208 (*synth*)

Tuchagues, J.P. *et al*, *J. Organomet. Chem.*, 1973, 54, 69 (*ir*,
nmr)

Destofano, A.J. *et al*, *Thermochim. Acta*, 1976, 16, 236 (*use*)Fussstetter, H. *et al*, *Chem. Ber.*, 1977, 110, 3172 (*nmr*)BH₂I

B-00004

Diiodoborane, 10Cl, 9Cl

[43338-13-2]



M 265.627

Prototype of the alkylidiodoborane series of compds.

Prepd. *in situ* by adding I₂/THF to BH₃ at 0°. Air-
sensitive. Sol. THF.

Et₃N complex: [56598-29-9]. Diiodoborane
triethylamine.

C₆H₁₆BI₂ M 352.811Prepd. by the reaction of I₂ with triethylamine borane.

Extremely sensitive to moisture, dec. on standing. Sol.
toluene.

Me₃N complex: [25741-84-8]. Diiodoborane
trimethylamine.

C₃H₁₀BI₂ M 310.731

Prepd. by the reaction of I₂ with trimethylamine
borane. Extremely sensitive to moisture, dec. on
standing. Sol. toluene.

Dimethyl sulfide complex: [28920-40-3]. Hydrodii-
do[thiobis(methane)]boron, 10Cl.

C₂H₇BI₂S M 327.756

Useful means of storing diiodoborane; hydroborates
alkenes to give alkylidiodoboranes. Moisture-sensitive
liq.

Phosphine complex: [41593-72-0].

BH₄I₂P M 299.624

Sol. MeI, CH₂Cl₂. pmr δ –6.30, J_{PH} 4.18Hz; ³¹P nmr
δ + 95, J_{PH} 424Hz.

Brown, M.P. *et al*, *J. Chem. Soc. (A)*, 1970, 410 (*ir*)Lowe, J.R. *et al*, *Inorg. Chem.*, 1970, 9, 1423 (*props*)Rapp, B. *et al*, *Inorg. Chem.*, 1973, 12, 2868 (*nmr*)Kinberger, K. *et al*, *Z. Naturforsch., B*, 1975, 30, 55 (*synth*)Myers, W.H. *et al*, *Inorg. Chem.*, 1975, 14, 2874 (*nmr*)Ashby, E.L. *et al*, *Tetrahedron Lett.*, 1976, 3865 (*synth*, *use*)Brown, H.C. *et al*, *J. Org. Chem.*, 1980, 45, 384 (*use*)BH₂I

B-00005

Iodoborane

Dihydroiodoboron



M 139.730

4-Methylpyridine complex: [59499-23-9]. Dihydroi-
odo(4-methylpyridine)boron, 10CCI. Iodoborane
γ-picoline.

C₆H₉BIN M 232.858

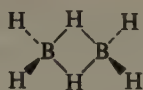
Identified by nmr only.

Denniston, M.L. *et al*, *J. Inorg. Nucl. Chem.*, 1976, 38, 379
(*synth*, *nmr*)

Vidal, J.L. *et al*, *Inorg. Chem.*, 1977, 16, 1673.

BH₃**Borane***Borine. Boron hydride*

[13283-31-3]



dimer

M 13.834

Exists as the dimer (diborane) unless complexed with a nucleophilic sp. The THF soln., dimethyl sulfide complex, and other complexes are important hydroborating and reducing agents.

Dimer: [19287-45-7]. *Diborane*(6), 10Cl. *Boroethane*. B₂H₆ M 27.667

Hydroborating and reducing reagent as soln. in THF or ethers. Deuterated diborane useful for incorporation of deuterium into org. molecules. Thermolysis is a major route to higher boranes. Colourless air- and moisture-sensitive gas. Sol. THF as BH₃-THF complex. Mp –165.5°. Bp –92.5°.

▷HQ9275000.

Schlesinger, H. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 199 (*synth*)Bartell, L. *et al*, *J. Chem. Phys.*, 1965, **42**, 1135 (*ed*)Naiman, K. *et al*, *Inorg. Nucl. Chem. Lett.*, 1970, **6**, 74 (*pmr*)Leach, J.B. *et al*, *J. Magn. Reson.*, 1972, **6**, 74 (*nmr*)Solomon, J.L. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 1443 (*ms*)Odom, J.D. *et al*, *Inorg. Chem.*, 1973, **12**, 95 (*nmr*)Murano, Y. *et al*, *Radiochem. Radioanal. Lett.*, 1980, **44**, 315 (*deriv, synth*)Ducan, J.L. *et al*, *J. Mol. Spectrosc.*, 1981, **85**, 16 (*ir*)Leach, J.B. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 988 (*synth*)**B-00006**

White cryst., stable *in vacuo* to 400°. Sol. liq. NH₃, amines, ethers. Mp 505°.

▷ED3325000.

Onak, T. *et al*, *J. Phys. Chem.*, 1959, **63**, 1533 (*nmr*)James, B. *et al*, *Prog. Inorg. Chem.*, 1970, **11**, 124 (*synth*)**BH₄N****Aminoborane, 8Cl***Boranamine*, 10Cl, 9Cl. *Aminoborine*

[14720-35-5]

B-00009

M 28.848

Parent system for a range of organic aminoborane derivs.

Air- and moisture-sensitive gas (solid aminoborane polymerizes between –196° and –155° to yield inert white material). Dipole moment = 1.844D.

Schaeffer, G.W. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 331 (*synth*)Kuznesof, P.M. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 2557 (*ms*)McGee, H.A. *et al*, *Inorg. Chem.*, 1970, **9**, 2458 (*ms, ir, synth*)Sugie, M. *et al*, *Chem. Phys. Lett.*, 1979, **64**, 573.Dewar, M.J.S. *et al*, *J. Mol. Struct.*, 1980, **68**, 105 (*ir*)Haddon, R.C., *Pure Appl. Chem.*, 1982, **54**, 1129.**BH₄O[⊖]****Trihydrohydroxyborate(1–), 10Cl, 9Cl, 8Cl***Trihydrohydroxyborate*(1–), 9Cl

[24492-48-6]

B-00010

M 30.841 (ion)

Intermed. in hydrol. of tetrahydroborate anion.

Li salt: [63717-91-9].BH₄LiO M 37.782

Reducing agent.

Na salt: [16903-32-5].BH₄NaO M 53.831*K salt:* [63706-85-4].BH₄KO M 69.939

Reducing agent.

Wang, F.T. *et al*, *Inorg. Chem.*, 1972, **11**, 1933 (*props*)Reed, J.W. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 1248 (*synth*)Reed, J.W. *et al*, *J. Org. Chem.*, 1977, **42**, 3963 (*use*)Strouf, O. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 391(*deriv, props*)Reed, J., *CA*, 1978, **89**, 49491n (*synth, props*)**B-00007****BH₃O****Hydroxyborane***Borinic acid*, 10Cl, 9Cl

[35825-58-2]



M 29.833

Prototype member of the dialkyl(hydroxy)boranes.

Unstable to moisture and to self-decomposition. Dipole moment $\mu_{\text{total}} = 1.506\text{D}$.

Gropen, O. *et al*, *J. Mol. Struct.*, 1975, **25**, 161 (*props*)Hinde, A.L. *et al*, *J. Comput. Chem.*, 1980, **1**, 118 (*props*)Boggs, J.E. *et al*, *Theochem.*, 1981, **1**, 329; *CA*, **95**, 103720a (*struct*)Kawashima, Y. *et al*, *J. Chem. Phys.*, 1981, **74**, 5430(*microwave*)Sliznev, V.V. *et al*, *CA*, 1982, **97**, 118997m.**BH₄[⊖]****Tetrahydroborate(1–)***Borohydride*(1–)**B-00008**

M 14.842 (ion)

Li salt: [16949-15-8]. *Lithium borohydride. Lithium tetrahydroborate.*

BH₄Li M 21.783

Reducing agent, reagent for synth. of other boranes.

White cryst., stable in dry air, unstable >280°. Sol. ethers. Mp 268°.

▷OJ6427000.

Na salt: [16940-66-2]. *Sodium borohydride. Sodium tetrahydroborate.*

BH₄Na M 37.831**BH₅N₂****Diaminoborane, 8Cl***Boranediamine*, 10Cl

[18447-53-5]

B-00011

M 43.863

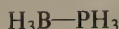
Parent compd. for the series of alkyldiaminoboranes.

Vapour can be kept for several days at r.t. but liq. decs. to form glassy solid with evolution of NH₃.

Baird, N.C. *et al*, *Can. J. Chem.*, 1967, **45**, 2059 (*props*)Briggs, T.S. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 7762 (*synth, nmr, ir*)Fjeldberg, T. *et al*, *Acta Chem. Scand., Ser. A*, 1980, **34**, 547(*props, struct*)Thorne, L.R., *CA*, 1980, **92**, 138026u (*ir, struct*)Briggs, T.S., *CA*, 1981, **94**, 163335t (*props*)

BH₆P**Borane phosphine**

Trihydro(phosphine)boron, 10Cl. *Phosphine compd. with borane* (1:1), 9Cl, 8Cl. *Borane compd. with PH₃* [19121-56-3]



M 47.831

Rudolph, R.W. *et al*, *Inorg. Chem.*, 1966, **5**, 723 (*nmr*, *ir*, *raman*)

Mayer, E., *Monatsh. Chem.*, 1971, **102**, 940 (*synth*)

Rapp, B. *et al*, *Inorg. Chem.*, 1973, **12**, 2868 (*nmr*)

Umeyama, H. *et al*, *Chem. Pharm. Bull.*, 1981, **29**, 287 (*struct*)

Cowley, A.H. *et al*, *Inorg. Chem.*, 1982, **21**, 85 (*pe*)

Sebestyen, A. *et al*, *Theochem.*, 1982, **6**, 259 (*struct*)

BH₇N₂**Borane hydrazine**

(Hydrazine-N)trihydroboron, 10Cl, 9Cl. *Hydrazine compd. with borane*, 9Cl, 8Cl. *Borane compd. with hydrazine*, 9Cl [14931-40-9]



M 45.879

Previously considered as rocket fuel. Large translucent cryst. Mp 61° (difficult to reproduce). Dec. >50°.

► Shock sensitive, nonflammable shielding necessary in synth.

Gunderloy, F.C., *Inorg. Chem.*, 1963, **2**, 221 (*synth*)

Hermanek, S. *et al*, *Collect. Czech. Chem. Commun.*, 1966, **31**, 1281 (*chromatog*)

Inorg. Synth., **9**, 13 (*synth*)

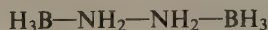
Andrianov, L.O. *et al*, *Zh. Strukt. Khim.*, 1967, **8**, 303 (*struct*)

Zakharov, V.V. *et al*, *Zh. Fiz. Khim.*, 1974, **48**, 492.

Lagodzinskaya, G.V. *et al*, *Zh. Fiz. Khim.*, 1975, **49**, 2238; 2624 (*nmr*)

B₂H₁₀N₂**Hydrazine bis(borane)**

Borane compd. with hydrazine (2:1), 9Cl, 8Cl. *Hydrazine compd. with borane* (1:2), 9Cl. [μ -(Hydrazine-N:N')]-hexahydrodiboron [13730-91-1]



M 59.712

Previously considered as rocket fuel. Fine white cryst. Does not melt below 100°.

► May explode violently, especially on heating. Shielding and remote-control manipulation are recommended

Hermanek, S. *et al*, *Collect. Czech. Chem. Commun.*, 1966, **31**, 1281 (*chromatog*)

Hanousek, F. *et al*, *Collect. Czech. Chem. Commun.*, 1973, **38**, 2692 (*ir*, *raman*)

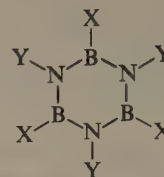
Zakharov, V.V. *et al*, *Zh. Fiz. Khim.*, 1974, **48**, 499.

Inorg. Synth., **9**, 13 (*synth*)

The symbol ► in Entries highlights hazard or toxicity information

B-00012**B₃Br₃H₃N₃****2,4,6-Tribromoborazine**, 10Cl, 9Cl, 8Cl**B,B,B-Tribromoborazole**

[13703-88-3]



X = Br, Y = H

M 317.186

Moisture-sensitive solid. Mp 128-9°.

Emeléus, H.J. *et al*, *J. Chem. Soc.*, 1959, 1306 (*synth*)

Scaife, C.W.J., *CA*, 1967, **66**, 121650h (*props*)

Hensen, K. *et al*, *Theor. Chim. Acta*, 1967, **9**, 17 (*nmr*, *uv*)

Graffeuil, M. *et al*, *J. Chim. Phys. Phys. Chim. Biol.*, 1971, **68**, 1379; *CA*, **76**, 19778a (*struct*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

B₃Cl₃H₃N₃**2,4,6-Trichloroborazine**, 10Cl, 9Cl, 8Cl**B,B,B-Trichloroborazole**

[933-18-6]

As 2,4,6-Tribromoborazine, B-00015 with

X = Cl, Y = H

M 183.833

Curing agent for epoxy resins. Colourless orthorhombic cryst. slowly dec. under N₂ at 0°; sublimes readily; moisture sensitive. Sol. C₆H₆, CCl₄, Et₂O, CS₂, PhCl, cyclohexane, CHCl₃, insol. Py, PhNO₂. d₄²⁵ 1.58. Mp 84°. Vigorous reaction with H₂O and alcohols. Above 100° slow irreversible dec. occurs with formation of HCl.

Brown, C.A. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 3699 (*synth*, *props*)

Brennan, G.L. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 6248 (*props*)

Inorg. Synth., 1972, **13**, 41 (*synth*, *props*, *ir*, *pmr*)

Kroner, J. *et al*, *Tetrahedron*, 1972, **28**, 1585 (*pe*)

Melcher, L.A. *et al*, *Inorg. Chem.*, 1973, **12**, 601 (*ms*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

Molt, K. *et al*, *Z. Anorg. Allg. Chem.*, 1981, **474**, 182 (*ir*, *raman*)

B₃F₃H₃N₃**2,4,6-Trifluoroborazine**, 10Cl, 9Cl, 8Cl**B-Trifluoroborazine**

[13779-24-3]

As 2,4,6-Tribromoborazine, B-00015 with

X = F, Y = H

M 134.469

White cryst. Sol. Et₂O, C₆H₆, CCl₄, CS₂, toluene, spar. sol. cyclohexane, pet. ether. Mp 118° (sealed tube). Bp 122° subl. Subl. *in vacuo*. Reacts with moist air.

Niendenzu, K., *Inorg. Chem.*, 1962, **1**, 943 (*synth*)

Laubengayer, A.W. *et al*, *Inorg. Chem.*, 1963, **2**, 519 (*ir*, *uv*, *ms*)

Kroner, J. *et al*, *Tetrahedron*, 1972, **28**, 1585 (*pe*)

Melcher, L.A. *et al*, *Inorg. Chem.*, 1973, **12**, 601 (*ms*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

Molt, K. *et al*, *Z. Anorg. Allg. Chem.*, 1981, **474**, 182 (*ir*)

B₃F₃O₃**Trifluoroboroxin**, 10Cl, 9Cl, 8Cl

[13703-95-2]

B-00015**B-00016****B-00017****B-00018**

As Boroxin, B-00019 with

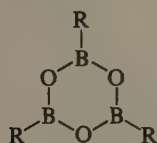
R = F

M 137.423

Used in boronizing process for surface treatment of steels. Disproportionates above –135°.

Fisher, H.D. *et al*, *J. Phys. Chem.*, 1961, **65**, 1166 (*synth, ir, struct*)Fisher, H.D., *CA*, 1963, **59**, 2376b.Laubengayer, A.W. *et al*, *Inorg. Chem.*, 1963, **2**, 519 (*synth, ir*)Brookes, C.W. *et al*, *Org. Mass. Spectrom.*, 1970, **3**, 231 (*glc, ms*)Dewar, M.J. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 58.Goeuriot, P. *et al*, *Thin Solid Films*, 1981, **78**, 67.**B₃H₃O₃****Boroxin**, 10Cl, 9Cl, 8Cl

[289-56-5]



M 83.452

Prototype of an important class of organoboron compds.

Hydrolyses in water, unstable at r.t.

Lee, G.H. *et al*, *J. Phys. Chem.*, 1963, **67**, 1742 (*synth, ir*)Barton, L. *et al*, *Inorg. Chem.*, 1966, **5**, 2076 (*synth*)Kaldor, A. *et al*, *Inorg. Chem.*, 1969, **8**, 1418 (*props*)Kaldor, A. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 2140 (*ir*)Serafini, A. *et al*, *J. Mol. Struct.*, 1975, **26**, 129 (*struct*)**B₃H₆N₃****Borazine**, 10Cl, 9Cl*Triaminotriborane. Borazole. Hexahydro-s-triazatriborine*

[6569-51-3]



M 80.498

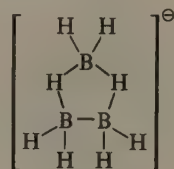
Inorganic benzene analogue. Liq. d₄²⁵ 0.808. Mp –58°.Bp 55°. n_D²⁰ 1.3821. Dipole moment 0.50D. Dec.slowly at r.t. to give hydrogen and a nonvolatile residue. Hydrol. slowly in water to B(OH)₃.

2,4,6-Tri-Me: see 2,4,6-Trimethylborazine, B-00210

Hexa-Me: see Hexamethylborazine, B-00449

2,4,6-Tri-Et: see 2,4,6-Triethylborazine, B-00451

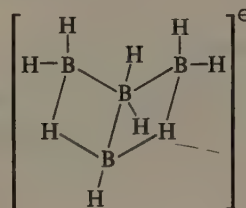
2,4,6-Tri-Ph: see 2,4,6-Triphenylborazine, B-01072

Stock, A. *et al*, *Ber.*, 1926, **59**, 2215 (*synth*)Schaeffer, R. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 3303 (*synth*)Niedenzu, W.S. *et al*, *Inorg. Chem.*, 1967, **6**, 1453 (*ir, raman*)Harshbarger, W. *et al*, *Inorg. Chem.*, 1969, **8**, 1683 (*cryst struct*)Porter, R.F. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 56 (*ms*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)**B₃H₈[⊖]****Octahydrotriborate(1-)**, 10Cl*Triborohydride(1-)*. Di-*μ-hydrohexahydrotriborate(1-)*

M 40.493 (ion)

arachno-anion.*Tetrabutylammonium salt*: [53451-55-1].C₁₆H₄₄B₃N M 282.960Used in synth. of higher boranes, borane anions, carboranes and transition metal complexes. White cryst., stable to air and water (CH₂Cl₂/Et₂O). Sol. CH₂Cl₂, MeCN, spar. sol. C₆H₆, Et₂O, hexane, H₂O. Mp 212° dec.*Inorg. Synth.*, 1974, **15**, 113 (*synth, nmr*)**B₄H₉[⊖]****Nonahydrotetraborate(1-)**, 10Cl

[12429-85-5]



M 52.311 (ion)

arachno-anion. Intermed. for synth. of tetraborane(10) derivs. and of pentaborane(11).*K salt*:B₄H₉K M 91.409

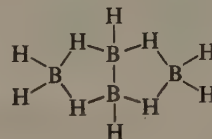
Colourless cryst. stable at –78°. Sol. ethers.

Tetrabutylammonium salt:C₁₆H₄₀B₄N M 289.739

Colourless cryst.

Johnson, H. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 7586 (*deriv*)Reitz, R. *et al*, *Inorg. Chem.*, 1972, **11**, 1242 (*nmr*)Rommel, R. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 5395 (*synth, nmr*)**B₄H₁₀****Tetraborane(10)**, 10Cl

[18283-93-7]

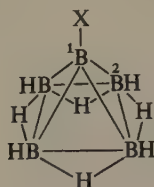


M 53.319

arachno-. Colourless gas or liq. Mp –120°. Bp 18°.Leach, J. *et al*, *Inorg. Chem.*, 1970, **9**, 2170 (*nmr*)Taft, M. *et al*, *Inorg. Chem.*, 1982, **21**, 1952 (*synth*)

B₅BrH₈**1-Bromopentaborane(9), 10Cl**

[23753-67-5]



X = Br

M 142.017

nido-. Reactive compd. used for synthesis of other boranes. White solid. Mp 34°. Bp₃₄ 82°.

▷Spontaneously inflammable. Explosive with air

Tucker, P. *et al*, *Inorg. Chem.*, 1970, **9**, 1430 (*nmr*)*Inorg. Synth.*, 1979, **19**, 247 (*synth, haz*)**B-00024**

As 1-Bromopentaborane(9), B-00024 with

X = H

M 63.121

nido-. Stable intermed. used for prepn. of higher boranes. Many derivs. formed. Liq. Mp –46.6°. Bp 50.3°.

▷Spontaneously inflammable (explosive) with air. Solvs. with reactive carbonyl groups and halogenated solvs. may form shock-sensitive solns. RY8925000.

Dibeler, V. *et al*, *J. Res. Natl. Bur. Std.*, 1949, **43**, 97 (*ms*)McCarty, L. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 3138 (*synth*)Hrostowski, H. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 998 (*ir*)Onak, T., *J. Chem. Soc., Chem. Commun.*, 1972, 351 (*nmr*)*Inorg. Synth.*, 1974, **15**, 118 (*synth*)Muettterties, E.L., *Boron Hydrides*, Academic Press, New York, 1975, 101 (*nmr*)**B₅ClH₈****1-Chloropentaborane(9), 10Cl**

[19469-13-7]

As 1-Bromopentaborane(9), B-00024 with

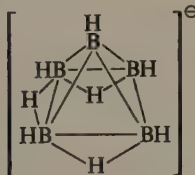
X = Cl

M 97.566

nido-. Colourless liq. or solid. Mp 27°.Gaines, D. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 4528 (*ir*)Gaines, D. *et al*, *Inorg. Chem.*, 1968, **7**, 704 (*synth*)Tucker, P. *et al*, *Inorg. Chem.*, 1970, **9**, 1430 (*nmr*)Murphy, C. *et al*, *Int. J. Mass Spectrom. Ion Phys.*, 1971, **7**, 327 (*ms*)**B-00025****B₅ClH₈****2-Chloropentaborane(9), 10Cl**

[19469-14-8]

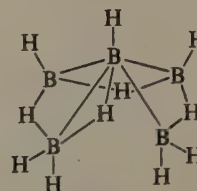
M 97.566

nido-. Colourless liq. Mp –41° (–40°).Burg, A., *J. Am. Chem. Soc.*, 1968, **90**, 1407 (*ir*)Gaines, D. *et al*, *Inorg. Chem.*, 1968, **7**, 704 (*synth*)Tucker, P. *et al*, *Inorg. Chem.*, 1970, **9**, 1430 (*nmr*)Murphy, C. *et al*, *Int. J. Mass Spectrom. Ion Phys.*, 1971, **7**, 327 (*ms*)**B-00026****B₅H₈[⊖]****Octahydropentaborate(1-), 10Cl**

M 62.113 (ion)

nido anion. Used for synthesis of other borane species.*K salt*: [56009-95-1].B₅H₈K M 101.212Colourless cryst. Sol. Me₂O, Et₂O, glyme, THF.Johnson, H. *et al*, *Inorg. Chem.*, 1970, **4**, 908 (*synth, nmr, ir, cryst struct*)**B-00027****B₅H₁₁****Pentaborane(11), 10Cl**

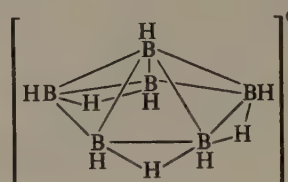
[18433-84-6]



M 65.137

arachno-. Colourless liq. Mp –123°. Bp 63°.Klein, M. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 4149 (*synth*)Lutz, C. *et al*, *Can. J. Chem.*, 1963, **41**, 1344 (*ms*)Spielman, J. *et al*, *Inorg. Chem.*, 1963, **2**, 1139 (*ir*)Fehlner, T. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 581 (*ms*)Leach, J. *et al*, *Inorg. Chem.*, 1970, **9**, 2170 (*nmr*)Toft, M. *et al*, *Inorg. Chem.*, 1982, **21**, 1952 (*synth*)**B-00029****B₆H₉[⊖]****Nonahydrohexaborate(1-), 10Cl**

[31426-85-4]

**B-00030**

M 73.931 (ion)

nido-anion.*K salt*:B₆H₉K M 113.029

Colourless cryst., unstable at r.t. Sol. ethers.

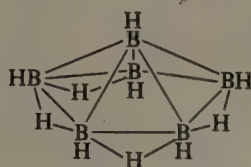
Johnson, H. *et al*, *Inorg. Chem.*, 1970, **9**, 908 (*synth, cryst struct, nmr*)Johnson, H. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 6711 (*pmr, ir*)**B₅H₉****Pentaborane(9), 10Cl**

[19624-22-7]

B-00028

B₆H₁₀
Hexaborane(10)
 [23777-80-2]

B-00031



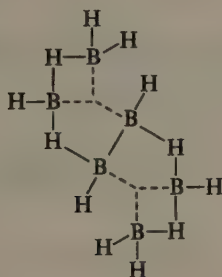
M 74.939

nido-. Liq. Mp –62.3°. Bp 108°.

Rossmann, M.G. *et al*, *Acta Crystallogr.*, 1959, **12**, 530 (*cryst struct*)Shapiro, I. *et al*, *Adv. Chem. Ser.*, 1961, **32**, 127 (*ms*)Burg, A.B. *et al*, *Inorg. Chem.*, 1962, **1**, 725 (*ir*)Leach, J. *et al*, *Inorg. Chem.*, 1970, **9**, 2170 (*nmr*)Brice, V. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6629 (*nmr*)*Inorg. Synth.*, 1979, **19**, 247 (*synth*)

B₆H₁₂
Hexaborane(12), 10Cl
 [12008-19-4]

B-00032



M 76.955

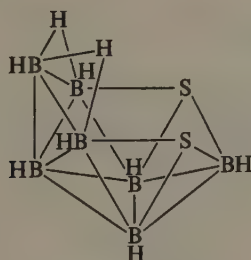
arachno-. Colourless liq., dec. slowly at 25°. Mp –82°.

Bp 80-90°.

Gaines, D. *et al*, *Inorg. Chem.*, 1964, **3**, 438 (*synth, ir*)Leach, J. *et al*, *Inorg. Chem.*, 1970, **9**, 2170 (*nmr*)McLaughlan, E. *et al*, *J. Phys. Chem.*, 1971, **75**, 3106 (*ms*)Rommel, R. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 3798 (*synth*)

B₇H₉S₂
6,8-Dithianonaborane(9), 10Cl
 [63115-77-5]

B-00033



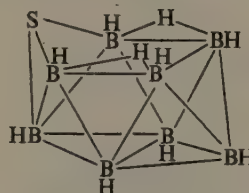
M 148.861

nido-. Pale-yellow cryst. Sol. hexane. Mp 103°. Subl. at 50°/0.01 mm.

Plešek, J. *et al*, *Collect. Czech. Chem. Commun.*, 1977, **42**, 785 (*synth, nmr, ms, uv*)

B₈H₁₀S
7-Thianonaborane(10), 9Cl
4-Thianonaborane(10)
 [59351-07-4]

B-00034



M 128.619

nido-. Colourless solid, air- and water-sensitive. Sol.

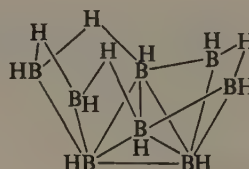
C₆H₆, CH₂Cl₂, pet. ether. Subl. at 40° *in vacuo*.

Stored at –78°.

Pretzer, W. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1441 (*synth, nmr, ir, ms*)

B₈H₁₂
Octaborane(12), 10Cl
 [19499-16-0]

B-00035



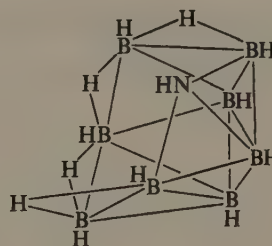
M 98.575

nido-. Sol. pentane. Mp –20°. Unstable above Mp.

Enrione, R. *et al*, *Inorg. Chem.*, 1964, **3**, 1659 (*cryst struct*)Dobson, J. *et al*, *Inorg. Chem.*, 1968, **7**, 402 (*synth*)Steck, S. *et al*, *Inorg. Chem.*, 1970, **9**, 2452 (*ms*)Rietz, R. *et al*, *Inorg. Chem.*, 1972, **11**, 1242 (*nmr*)

B₈H₁₃N
4-Azanonaborane(13), 10Cl
 [58920-21-1]

B-00036

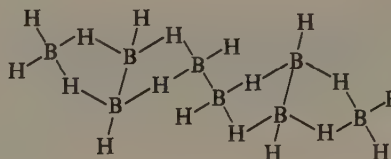


M 113.589

Air-sensitive liq. Sol. C₆H₆. Mp 0°. Bp_{0.01} 60°.Base, K. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 934 (*synth, ir, struct*)

B₈H₁₈
Octaborane(18)
2-(2'-Tetraboran-10-yl)tetraborane(10)
 [12421-66-8]

B-00037



M 104.622

2,2-Linked *arachno*-. Thermally unstable.

Steck, S. *et al*, *Inorg. Chem.*, 1969, **8**, 830 (*ms*)

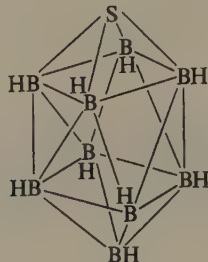
Rietz, R. *et al*, *Inorg. Chem.*, 1972, **11**, 1242 (*nmr*)

Glore, J. *et al*, *Inorg. Chem.*, 1973, **12**, 2175 (*synth*)

B₉H₉S

1-Thiadecaborane(9)

[41646-56-4]



M 138.421

closo-. White cryst. by subl. *in vacuo*. Mp 216.5° (sealed tube).

Pretzer, W. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 931 (*ms*)

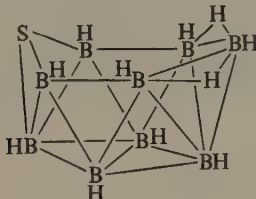
Pretzer, W. *et al*, *Inorg. Chem.*, 1974, **13**, 2779 (*nmr*)

Pretzer, W. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1441 (*synth*, *pmr*, *uv*)

B₉H₁₁S

6-Thiadecaborane(11), 10Cl

[12447-77-7]



M 140.437

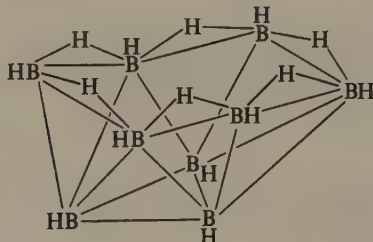
nido-. Transparent cryst. Sol. C₆H₆. Mp 76.5°. Subl. at 70-90°/0.1 mm.

Pretzer, W. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1441 (*synth*, *struct*, *nmr*)

B₉H₁₅

Isononaborane(15), 10Cl

[19465-30-6]



M 112.409

arachno-. Solid, dec. above -30°. Sol. pentane.

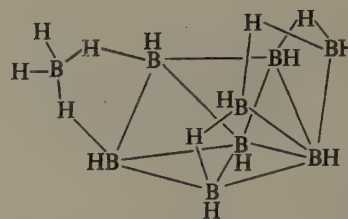
Dobson, J. *et al*, *Inorg. Chem.*, 1968, **7**, 399 (*synth*)

Moody, D. *et al*, *Inorg. Chem.*, 1976, **15**, 233 (*nmr*)

B₉H₁₅

Nonaborane(15), 10Cl

[19465-30-6]



M 112.409

arachno-. Cryst. solid (pentane at -30°), liq. at r.t. Sol. pentane. Mp 2.5°.

Simpson, P. *et al*, *J. Chem. Phys.*, 1961, **35**, 1340 (*cryst struct*)

Burg, A. *et al*, *Inorg. Chem.*, 1962, **1**, 725 (*ir*)

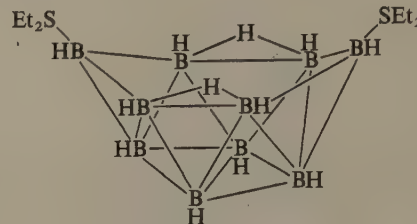
Ditter, J. *et al*, *Inorg. Chem.*, 1966, **5**, 118 (*ms*)

Schaeffer, R. *et al*, *Inorg. Chem.*, 1972, **11**, 3102 (*synth*, *nmr*)

B₁₀H₁₂

Decaborane(12)

[32124-79-1]



Bis (Et₂S) adduct

M 120.195

Isol. as adduct with Et₂S.

Bis (Et₂S) adduct: [32174-79-1]. *Decaborane* (12) compd. with 1,1'-thiobis[ethane] (1:2), 10Cl.

C₈H₃₂B₁₀S₂ M 300.561

Important precursor to 1,2-dicarbado-decaborane(12) derivs. White solid. Mp 91°.

Heyling, T.L. *et al*, *Inorg. Chem.*, 1963, **2**, 1089 (*synth*)

Hyatt, D.E. *et al*, *Inorg. Chem.*, 1967, **6**, 630 (*nmr*)

Inorg. Synth., 1967, **10**, 95 (*synth*)

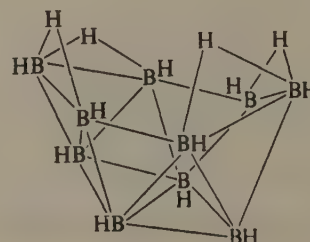
Cragg, R.H. *et al*, *J. Chem. Soc. (A)*, 1970, 1817 (*uv*)

B-00040

B₁₀H₁₄

Decaborane(14), 10Cl

[17702-41-9]



M 122.211

nido-. Precursor to production of carboranes. Cryst. solid by subl. Sol. CS₂. Mp 99.6°. Bp 213° (221°).

▷Toxic. HD1400000.

Stock, A. *et al*, *Ber.*, 1913, **46**, 3353 (*synth*)

Kasper, J. *et al*, *Acta Crystallogr.*, 1950, **3**, 436 (*cryst struct*)

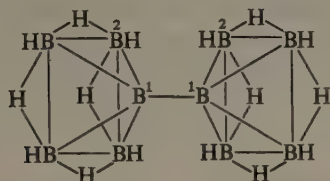
Keller, W. *et al*, *J. Chem. Phys.*, 1952, **20**, 1749 (*uv*, *ir*)

Quayle, A., *J. Appl. Chem. (London)*, 1959, **9**, 395 (*ms*)

Williams, R., *Inorg. Chem.*, 1965, **4**, 1504 (*nmr*)
 Holzmann, R. *et al*, *Production of the Boranes and Related Research*, Academic Press, New York, 1967, 102 (*synth*)
 Bodner, G. *et al*, *Inorg. Chem.*, 1970, **9**, 1421 (*nmr*)
 Toft, M. *et al*, *Inorg. Chem.*, 1982, **21**, 1952 (*synth*)

B₁₀H₁₆**B-00044****1,1'-Bipentaborane(9), 10Cl**

1-(1-Pentaboran(9)yl)pentaborane(9). Decaborane(16)
 [71595-75-0]



M 124.226

Linked *nido*-. One of three isomeric decaborane(16)'s.

See also 1,2'-Bipentaborane(9), B-00045 and 2,2'-Bipentaborane(9), B-00046. Solid, stable at 25°. Mp 81°. Sublimes.

Grimes, R. *et al*, *Proc. Natl. Acad. Sci. U.S.A.*, 1962, **48**, 496(*synth*, *ir*)Ardini, L. *et al*, *Inorg. Chem.*, 1973, **12**, 798 (*synth*)**B₁₀H₁₆****B-00045****1,2'-Bipentaborane(9), 10Cl**

1-(2-Pentaboran(9)yl)pentaborane(9). Decaborane(16)
 [31831-99-9]

M 124.226

Linked *nido*-. See also 1,1'-Bipentaborane(9), B-00044 and 2,2'-Bipentaborane(9), B-00046. Solid or liq. Mp 18.4°.

Gaines, D. *et al*, *Inorg. Chem.*, 1971, **10**, 1096 (*nmr*, *ir*, *ms*)

Gaines, D. *et al*, *J. Chem. Soc., Chem. Commun.*, 1979, 380 (*synth*)

B₁₀H₁₆**B-00046****2,2'-Bipentaborane(9), 10Cl**

2-(2-Pentaboran(9)yl)pentaborane(9). Decaborane(16)
 [28775-81-7]

M 124.226

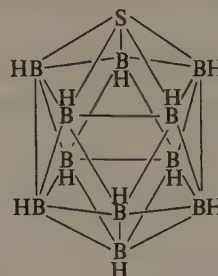
Linked *nido*-. See also 1,1'-Bipentaborane(9), B-00044 and 1,2'-Bipentaborane(9), B-00045. Liq. Mp -20.5° (-22.8°).

Gaines, D. *et al*, *Inorg. Chem.*, 1971, **10**, 1096 (*nmr*, *ir*, *ms*)Rietz, R. *et al*, *Inorg. Chem.*, 1972, **11**, 1242 (*nmr*)

Gaines, D. *et al*, *J. Chem. Soc., Chem. Commun.*, 1979, 380 (*synth*)

B₁₁H₁₁S**B-00047****1-Thiadodecaborane(11)**

[56464-75-6]



M 162.057

closo-. White cryst. Sol. CS₂, CH₂Cl₂. Mp 325° (sealed tube). Subl. >240° (>50° *in vacuo*).

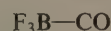
Plešek, J. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 127(*synth*, *ms*, *ir*, *nmr*)

Pretzer, W. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1441 (*synth*, *ms*, *uv*, *nmr*)

CBF₃O**B-00048****Trifluoroborane carbonyl**

Carbonyltrifluoroboron, 10Cl. Trifluoroborane, compd. with carbon monoxide(1:1), 9Cl. Boron trifluoride carbonyl

[51006-66-7]



M 95.816

Archibald, R.M. *et al*, *J. Chem. Soc., Faraday Trans. 2*, 1973, **69**, 1793 (*struct*)

Novick, S.E. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 8547.Janda, K.C. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 8074 (*struct*)Armstrong, D.R., *Inorg. Chim. Acta*, 1979, **33**, 177 (*struct*)Clark, D.T. *et al*, *Chem. Phys.*, 1980, **46**, 43.**CBF₆[⊖]****B-00049**

Trifluoro(trifluoromethyl)borate(1-), 10Cl, 9Cl
 (Trifluoromethyl)trifluoroborate



M 136.811 (ion)

K salt: [42298-15-7].

CBF₆K M 175.910

Monoclinic cryst. (EtOH).

Jackovitz, J.F. *et al*, *Appl. Spectrosc.*, 1973, **27**, 209 (*ir*, *raman*)

Brauer, D.J. *et al*, *Inorg. Chem.*, 1977, **16**, 2305 (*ir*, *raman*, *synth*, *cryst struct*)

Pawelke, G. *et al*, *J. Organomet. Chem.*, 1979, **178**, 1 (*synth*)**CH₂BN****B-00050****Cyanoborane**

Borane carbonitrile, 10Cl, 9Cl

[60633-76-3]



M 38.844

Forms homopolymer. Prepd. from NaBH₃CN in Et₂O by addition of HCl gas. Air- and moisture-sensitive white semi-solid. Sol. HMPA, CH₂Cl₂. *ir* 2469, 2441, 2429, 2295 cm⁻¹ (neat).

Brändström, A. *et al*, *Tetrahedron Lett.*, 1972, 3173 (*synth*)Hutchins, R.O. *et al*, *J. Org. Chem.*, 1977, **42**, 82 (*synth*, *ir*, *use*)

Vidal, J.C. *et al*, *Inorg. Chem.*, 1977, **16**, 1898 (*synth, props*)
 Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (*synth, use*)
 Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, **3**, 695 (*rev*)

CH₃B**B-00051****Methylborylidene**, 10Cl*Methylborylene*

[62785-41-5]

MeB:

M 25.845

Said to be formed as an intermed. in reaction of MeBCl₂ with potassium, but evidence unconvincing.Van der Kerk, S.M. *et al*, *Tetrahedron Lett.*, 1979, 4765 (*synth*)Van der Kerk, S.M. *et al*, *J. Organomet. Chem.*, 1980, **190**, C8 (*synth, use*)**CH₃BBr₂****B-00052****Dibromomethylborane**, 10Cl, 9Cl*Methylboron dibromide. Methyl dibromoborane*

[17933-16-3]

MeBBr₂

M 185.653

Liq., sensitive to air and moisture. Bp 60-2°.

Nöth, H. *et al*, *J. Org. Chem.*, 1968, **12**, 23 (*pmr*)Berger, H. *et al*, *Chem. Ber.*, 1976, **109**, 2266 (*nmr*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **420**, 251 (*synth*)Meler, A. *et al*, *Chem. Ber.*, 1981, **114**, 2519 (*use*)Schulze, J. *et al*, *Chem. Ber.*, 1981, **114**, 495 (*use*)**CH₃BCl₂****B-00053****Dichloromethylborane**, 10Cl, 9Cl, 8Cl*Methyldichloroborane. Dichloromethylborine*

[7318-78-7]

MeBCl₂

M 96.751

Easily condensed gas, sensitive to air and moisture. Bp 11°.

Lengyel, B. *et al*, *Z. Anorg. Allg. Chem.*, 1963, **322**, 103 (*synth*)Timms, P. *et al*, *J. Chem. Soc., Chem. Commun.*, 1968, 1525 (*use*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **420**, 251 (*synth*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 2266 (*nmr*)Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)Becher, H. *et al*, *Spectrochim. Acta, Part A*, 1979, **35**, 59 (*ir*)**CH₃BCl₂O₂****B-00054****(Dichloromethyl)dihydroxyborane***(Dichloromethyl)boronic acid*, 10Cl. *Dichloromethaneboronic acid*

[62260-98-4]

Cl₂CHB(OH)₂

M 128.750

White air-sensitive solid (Me₂CO aq.). Sol. EtOH, Me₂CO, THF, H₂O. Insol. CH₂Cl₂, C₆H₆, CHCl₃, MeCN. Mp 75-100° (impure).Rathke, M.W. *et al*, *J. Organomet. Chem.*, 1976, **122**, 145 (*synth, nmr*)**CH₃BF₂****B-00055****Difluoromethylborane**, 10Cl, 9Cl*Methyldifluoroborane*

[373-64-8]

F₂BMe

M 63.842

Air- and moisture-sensitive gas. V.p. 69.5 mm at -97.4°; 286.9 mm at -78.5°.

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 2667 (*synth*)Steele, W.C. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 1154 (*ms*)Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)Fussstetter, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (*nmr*)McKean, D.C. *et al*, *Spectrochim. Acta, Part A*, 1977, **33**, 951 (*ir, raman*)**CH₃BF₂O****B-00056****Difluoromethoxyborane**, 9Cl*Difluoromethoxyborine*

[381-59-9]

F₂BOMe

M 79.841

Air- and moisture-sensitive solid. Sol. THF. Mp 41-2°.

Goubeau, J. *et al*, *Z. Phys. Chem.*, 1959, **20**, 15 (*raman*)Sternach, B. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 3384 (*synth*)deMoor, J.E. *et al*, *Ber. Bunsenges. Phys. Chem.*, 1963, 429 (*ir*)deMoor, J.E. *et al*, *J. Organomet. Chem.*, 1966, **6**, 235 (*nmr*)Anosov, V.I. *et al*, *CA*, 1980, **93**, P221317f (*use*)**CH₃BF₃[⊖]****B-00057****Trifluoromethylborate(1-)**, 10Cl*Methyltrifluoroborate*MeBF₃[⊖]

M 82.840 (ion)

Cu salt: [65139-98-2].CH₃BCuF₃ M 146.386Proposed intermed. in BF₃ - catalysed reacns. of CuMe.Maruyama, K. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 8068 (*props*)Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 3240; 1980, **102**, 2318 (*props*)**CH₃BF₃O[⊖]****B-00058****Trifluoromethoxyborate(1-)**, 10Cl, 9Cl*Methoxytrifluoroborate*

[51259-50-8]

MeOBF₃[⊖]

M 98.839 (ion)

Na salt: [21655-10-7].CH₃BF₃NaO M 121.829*K salt*: [15696-17-0].CH₃BF₃KO M 137.938Kolditz, L. *et al*, *Z. Anorg. Allg. Chem.*, 1968, **360**, 25 (*props, synth*)Ryss, I.G. *et al*, *Zh. Neorg. Khim.*, 1968, **13**, 1535 (*synth, props*)Plakhotnik, V.N. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1976, **228**, 1112 (*nmr*)Plakhotnik, V.N. *et al*, *Koord. Khim.*, 1976, **2**, 855 (*props*)Chernyshov, B.N. *et al*, *Koord. Khim.*, 1980, **6**, 1520 (*nmr*)Vasilyuk, N.S. *et al*, *Koord. Khim.*, 1981, **7**, 78 (*props*)

CH₃BI₂**Diiododimethylborane***Methyldiiodoborane*

[17933-08-3]

B-00059MeBI₂

M 279.654

Prepd. from tetramethylstannane and BI₃. Air-, moisture- and light-sensitive red liq.; stored under N₂ at -10°. Sol. CH₂Cl₂. Bp_{0.01} 50°.

Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **11**, 399; 1968, **12**, 23 (*synth, nmr*)

Siebert, W. *et al*, *Chem. Ber.*, 1973, **106**, 1012 (*use*)

Renk, T. *et al*, *J. Organomet. Chem.*, 1976, **120**, 1 (*use*)

Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1978, **446**, 45.

Eisch, J.J. *et al*, *J. Organomet. Chem.*, 1979, **171**, 141.

NMe₃ complex: [60788-33-2].

C₄H₁₂BNO₂ M 116.954

Shows antiinflammatory and antihypolipidaemic activity. Air-sensitive white cryst. (H₂O). Sol. CHCl₃. Mp 147°.

Py complex: See *Pyridine carboxyborane*, B-00384

Tetramethylethylenediamine complex: See *N,N,N',N'*-

Tetramethylethylenediamine bis(carboxyborane), B-00583

Spielvogel, B.F. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 5702; 1980,

102, 6343 (*synth, nmr, ir, cryst struct, use*)

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1979, **68**, 685 (*synth, pharmacol*)

Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, **3**, 695 (*rev*)

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1980, **69**, 1025; 1981, **70**, 339 (*pharmacol*)

CH₃BN[⊖]**(Cyano-C)trihydroborate(1-)**, 10Cl, 9Cl**B-00060**

[33195-00-5]

[H₃BCN][⊖]

M 39.851 (ion)

Na salt: [25895-60-7]. *Sodium cyanoborohydride*.

CH₃BNNa M 62.841

Reducing agent for org. functional groups, particularly for reductive amination of ketones. Cryst. (MeNO₂).

Mp >242° dec. Commercially available.

▷ Severe poison, flammable solid

Berschied, J.R. *et al*, *Inorg. Chem.*, 1970, **9**, 624 (*ir, nmr, raman*)

Wade, R.C. *et al*, *Inorg. Chem.*, 1970, **9**, 2146 (*synth, ir, nmr*)

Berschied, J.R. *et al*, *Inorg. Chem.*, 1972, **11**, 930 (*ir, raman, struct*)

Hall, L.W. *et al*, *Inorg. Chem.*, 1975, **14**, 580 (*nmr*)

Hutchins, R.O. *et al*, *Org. Prep. Proced. Int.*, 1979, **11**, 201 (*rev, use*)

Yamamoto, Y. *et al*, *CA*, 1980, **92**, 139884j (*synth, props, rev*)

CH₃BO**Borane carbonyl****B-00061**

Carbonyltrihydroboron, 10Cl. *Carbon monoxide compd. with borane*(1:1), 9Cl, 8Cl. *Borane compd. with carbon monoxide*(1:1). *Borine carbonyl*

[13205-44-2]

H₃B—CO

M 41.844

Wason, S. *et al*, *Inorg. Chem.*, 1966, **5**, 161 (*synth*)

Mayer, E., *Monatsh. Chem.*, 1971, **102**, 940 (*synth*)

Finn, P. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 1540 (*nmr, props*)

Lambert, L. *et al*, *J. Mol. Spectrosc.*, 1972, **44**, 578 (*ir*)

Lloyd, D.R. *et al*, *J. Chem. Soc., Faraday Trans. 2*, 1972, **68**, 947 (*pe*)

Carter, J.C. *et al*, *Appl. Spectrosc.*, 1974, **28**, 427 (*nmr*)

Pepin, C. *et al*, *J. Mol. Spectrosc.*, 1976, **59**, 43 (*ir*)

CH₃BO₂**Boranecarboxylic acid**, 10Cl, 9Cl**B-00062**H₂BCOOH

M 57.844

NH₄ salt: [74861-59-9].

CH₆BNO₂ M 74.874

Prepd. by reacn. of Me₃NBH₂COOH with NH₃.

Shows antihypolipidaemic activity. Air-sensitive cryst. solid. Sol. CHCl₃. Mp 116°.

CH₄BF₃O**Trifluoroborane methanol****B-00063**

Trifluoro(methanol)boron, 10Cl. *Methanol compd. with trifluoroborane*(1:1), 9Cl. *Methanol compd. with boron fluoride*(BF₃)(1:1), 8Cl

[373-57-9]

MeOH—BF₃

M 99.847

Catalyst for a variety of reactions. Moisture-sensitive.

Fratiello, A. *et al*, *J. Org. Chem.*, 1972, **37**, 2237 (*nmr*)

Jao, L.K.Y., *Diss. Abstr. Int. B.*, 1973, **34**, 2524; *CA*, **80**, 94809x (*nmr*)

Burya, G.F. *et al*, *Zh. Fiz. Khim.*, 1975, **49**, 1227 (*ir*)

Derouault, J. *et al*, *J. Mol. Struct.*, 1978, **47**, 59 (*ir, raman*)

Derouault, J. *et al*, *Spectrochim. Acta, Part A*, 1979, **35**, 773 (*ir, raman*)

CH₅B**Methylborane**, 10Cl, 9Cl, 8Cl**B-00064***Methylborine*

[12538-96-4]

MeBH₂

M 27.861

Exists as B-H bridged dimer in the uncomplexed state.

Air- and moisture-sensitive; readily redistributes to other compds. of the type Me_nBH_{3-n}. Sol. non-hydroxylic solvs.

Me₃N complex: [52920-77-1]. *N,N-Dimethylmethanamine methylborane*.

C₄H₁₄BN M 86.971

Prepd. from MeBH₃Li and NMe₃·HCl. Sol. pentane. Mp 0°.

Me₂NH complex: [52920-78-2]. *Methylborane N-methylmethanamine*.

C₃H₁₂BN M 72.945

Prepd. by amine exchange of MeBH₂·NMe₃ with excess Me₂NH. Colourless involatile liq. Sol. CHCl₃.

Schlesinger, H.I. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 1078 (*deriv*)

Steck, S.J. *et al*, *J. Phys. Chem.*, 1969, **73**, 1000 (*ms*)

Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3039 (*nmr*)

Beachley, O.T. *et al*, *Inorg. Chem.*, 1975, **14**, 120 (*deriv*)

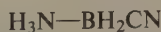
Dill, J.D. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1663 (*struct*)

Pross, A. *et al*, *J. Comput. Chem.*, 1980, **1**, 295 (*struct*)

CH₅BN₂**Cyanoborane ammonia****B-00065**

Ammine(cyano-C)dihydroboron, 10Cl, 9Cl. *Boranecarbonitrile monoammoniate*, 9Cl

[59301-48-3]

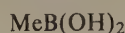


M 55.874

White solid. Mp 89°.

Bratt, P.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 353 (*synth*, *ir*)McPhail, A.T. *et al*, *J. Chem. Res. (S)*, 1978, 205 (*cryst struct*)Hall, I.H. *et al*, *J. Pharm. Sci.*, 1980, **69**, 1025; 1981, **70**, 339 (*pharmacol*)**CH₅BO₂****B-00066****Dihydroxy(methyl)borane***Methylboronic acid*, 10Cl, 9Cl. *Methylboric acid*. *Methan-
eboric acid*. *Methyl-dihydroxyborane*

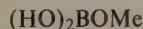
[13061-96-6]



M 59.859

Solid. Mp 95-100° dec. (freshly prepared). Readily
dehydrates to trimethylboroxin.Burg, A.B., *J. Am. Chem. Soc.*, 1940, **62**, 2228 (*synth*)de Moor, J.E. *et al*, *J. Organomet. Chem.*, 1967, **9**, 31 (*ir*,
raman)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)McFarlane, W. *et al*, *Chem. Ber.*, 1975, **108**, 2112 (*nmr*)Rensch, H. *et al*, *Chem. Ber.*, 1977, **110**, 2189 (*synth*)Kossa, W.C., *Chem. Deriv. Anal. Chem.*, (Frei, R.W. *et al*, Ed.),
1981, Plenum, N.Y., 99 (*rev*)Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-
83, **1**, 1231.**CH₅BO₃****B-00067****Dihydroxymethoxyborane***Boric acid* (H₃BO₃) monomethyl ester, 10Cl.*Methoxydihydroxyborane*

[68498-84-0]



M 75.859

Moisture-sensitive; readily dec.

Guthrie, J.P., *Can. J. Chem.*, 1978, **56**, 2342 (*props*)Kamars, A. *et al*, *CA*, 1979, **91**, 19380z (*pmr*)Steinfeldt, K.P. *et al*, *Z. Naturforsch., B*, 1981, **36**, 691 (*raman*)**CH₆B^o****B-00068****Trihydromethylborate(1-)***Methylborohydride*

[71844-38-7]



M 28.868 (ion)

Li salt: [52950-75-1].CH₆B^oLi M 35.809

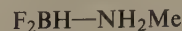
Air- and moisture-sensitive.

Mg salt: [68193-75-9]. *Bis*[trihydromethylborato(1-)-
H,H']magnesium.C₂H₁₂B₂Mg M 82.042

Air- and moisture-sensitive.

Goel, A.B., *Indian J. Chem., Sect. A*, 1978, **16**, 491.Umeyama, H. *et al*, *Chem. Pharm. Bull.*, 1979, **27**, 1626 (*props*)Pross, A. *et al*, *Tetrahedron*, 1980, **36**, 673 (*props*)Biffar, W. *et al*, *Chem. Ber.*, 1981, **114**, 49 (*nmr*)**CH₆BF₂N****B-00069****Difluoroborane methylamine***Difluorohydro(methanamine)boron*, 10Cl. *Difluorobo-
rane methanamine*. *Methylamine difluoroborane*

[42525-40-6]

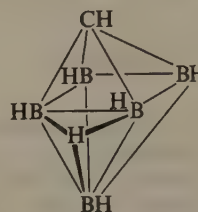


M 80.872

White solid below -50°, phys. state not recorded at r.t.

Sol. CCl₄, CH₂Cl₂.Tuchagues, J.P. *et al*, *J. Organomet. Chem.*, 1973, **54**, 69 (*synth*,
ir, *nmr*)Van Paasschen, J.M. *et al*, *Inorg. Chem.*, 1978, **17**, 3302.**CH₇B₅****B-00070****1-Carbahexaborane(7), 10Cl***1-Carbahexaborane(7)-2,3,6-μ₃-H*

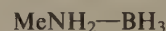
[55188-36-8]



M 73.116

Exceptional *closo*-. Colourless liq. by vacuum
fractionation.Groszek, E. *et al*, *Inorg. Chem.*, 1971, **10**, 2770 (*synth*, *nmr*)Onak, T. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 76 (*nmr*)Onak, T. *et al*, *J. Chem. Soc., Dalton Trans.*, 1974, 665.McNeill, E.A. *et al*, *Inorg. Chem.*, 1975, **13**, 1081 (*ed*)McKown, G. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 6909
(*microwave*)**CH₈BN****B-00071****Borane methylamine***Trihydro(methanamine)boron*, 10Cl. *Methanamine
compd. with borane(1:1)*, 9Cl. *Methylamine compd. with
borane*, 8Cl. *Methylamine borane*

[1722-33-4]



M 44.891

Solid. Mp 56°. Dipole moment 5.19D.

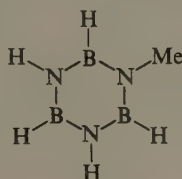
Nöth, H. *et al*, *Chem. Ber.*, 1960, **93**, 928 (*synth*)Heitsch, C.W., *Inorg. Chem.*, 1965, **4**, 1019 (*nmr*)Lloyd, D.R. *et al*, *J. Chem. Soc., Faraday Trans. 2*, 1972, **68**,
947 (*pe*)Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3070 (*nmr*)Umeyama, H. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 7208.Van Paasschen, J.M. *et al*, *Inorg. Chem.*, 1978, **17**, 3302.

CH₈B₃N₃

1-Methylborazine, 10Cl, 9Cl, 8Cl

1-Methylborazole

[21127-94-6]



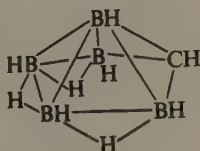
M 94.524

Stable compound. V.p. 27mm at r.t., 23.5mm at 0°.

Hoffmann, R., *J. Chem. Phys.*, 1964, **40**, 2474 (*struct*)Powell, P. *et al*, *J. Chem. Soc.*, 1964, 280 (*synth*)Beachley, O.T., *Inorg. Chem.*, 1969, **8**, 981 (*nmr*, *ms*, *ir*)Beaumeiou, G. *et al*, *Org. Magn. Reson.*, 1973, **5**, 585 (*nmr*)Turbini, L.J. *et al*, *Org. Magn. Reson.*, 1974, **6**, 456 (*pmr*)Kline, G.A. *et al*, *Inorg. Chem.*, 1977, **16**, 11 (*props*, *nmr*)CH₉B₅

2-Carbahehexaborane(9), 10Cl

[12385-35-2]



M 75.132

nido-. Colourless liq. by vacuum fractionation. *

Dunks, G. *et al*, *Inorg. Chem.*, 1969, **8**, 2667 (*synth*, *nmr*, *ir*)Cheung, C. *et al*, *Inorg. Chem.*, 1971, **10**, 1144 (*microwave struct*)Groszek, E. *et al*, *Inorg. Chem.*, 1971, **10**, 2770 (*synth*)Leach, J.B. *et al*, *J. Chem. Soc., Dalton Trans.*, 1977, 819 (*synth*)CH₁₀B₅Cl₃Si

1-[(Trichlorosilyl)methyl]pentaborane(9), 10Cl

[63788-21-6]

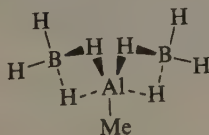


M 210.585

Leach, J.B. *et al*, *J. Chem. Soc., Dalton Trans.*, 1977, 819 (*nmr*, *ms*, *synth*)CH₁₁AlB₂

Methylbis(tetrahydroborato)aluminum

Methylaluminum bis(tetrahydroborate)



M 71.699

Monomeric. Mp -76°. Extremely sensitive to traces of oxygen or moisture. Forms adducts with NMe₃, PMe₃, AsMe₃, Me₂O, Et₂O, Me₂S, Me₂NH.Oddy, P.R. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 869 (*synth*, *ir*)Barlow, M.T. *et al*, *J. Chem. Soc., Dalton Trans.*, 1980, 1374 (*synth*, *struct*)

B-00072

CH₁₂B₂N₂

Methylhydrazine bis(borane)

Hexahydro[μ-(methylhydrazine-N:N')]diboron, 10Cl.

Methylhydrazine compd. with borane(1:2), 9Cl

[58978-79-3]

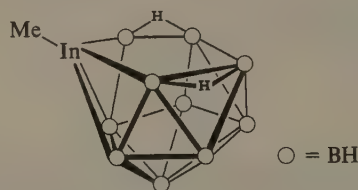


M 73.739

Used in photographic image development.

Hamilton, J.F., *J. Vac. Sci. Technol.*, 1976, **13**, 319.Gysling, H.J. *et al*, *Res. Discl.*, 1976, **142**, 34.U.S.P., 4 042 392, (1977); CA, **88**, P30399wLelental, M. *et al*, *J. Photogr. Sci.*, 1978, **26**, 135.Ger. Pat., 2 819 885, (1978); CA **90**, P178152xCH₁₅B₁₀In[η⁴-Dodecahydrodecaborato(2-)]methylindium, 9Cl

[55988-46-0]



M 250.050

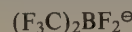
Pale-yellow solid. Sol. Me₂CO.Greenwood, N.N. *et al*, *J. Chem. Soc., Dalton Trans.*, 1975, 299 (*synth*, *ir*, *nmr*)

B-00077

B-00073

C₂BF₈[⊖]

Difluorobis(trifluoromethyl)borate(1-), 10Cl



M 186.819 (ion)

H deriv.: [72035-26-8].

C₂HBF₈ M 187.827

No phys. props. reported.

K salt: [72035-25-7].

C₂BF₈K M 225.918

No phys. props. reported.

Cs salt: [72035-27-9].

C₂BCsF₈ M 319.725

No phys. props. reported.

Pawelke, G. *et al*, *J. Organomet. Chem.*, 1979, **178**, 1 (*synth*)Brauer, D.J. *et al*, *J. Organomet. Chem.*, 1980, **192**, 305 (*struct*, *raman*, *ir*, *nmr*)

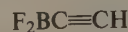
B-00078

C₂HBF₂

Ethynyldifluoroborane, 10Cl, 9Cl

Difluoroethynylborane

[23728-64-5]



M 73.837

Prepd. from ethynyltrimethyltin and BF₃ at -80° to -63°. Air- and moisture-sensitive. Dipole moment 1.87D.Lafferty, W.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1969, 909 (*spectra*)Ritter, J.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1969, 908 (*synth*, *ms*)Lafferty, W.J. *et al*, *J. Mol. Spectrosc.*, 1971, **38**, 181 (*spectra*)Burke, J.M. *et al*, *Spectrochim. Acta, Part A*, 1974, **30**, 993 (*raman*)Grindley, T.B. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1974, 276 (*props*)

B-00079

Tupitsyn, I.F. *et al*, *Zh. Strukt. Khim.*, 1979, **20**, 987.

C₂H₃B**B-00080****Ethynylborane, 10Cl**

[72507-59-6]



M 37.856

Never prepd. as a free compd. V. unstable, presumably both air- and moisture-sensitive.

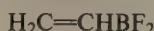
Dill, J.D. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 6814.

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)

Radom, L. *et al*, *Isr. J. Chem.*, 1980, **19**, 305.

C₂H₃BF₂**B-00081****Difluorovinylborane, 8Cl***Ethenyldifluoroborane, 10Cl, 9Cl*

[358-95-2]



M 75.853

Prepd. from tetravinylstannane and B₂F₄ at –80°. Air- and moisture-sensitive gas. Mp –133.4°. Bp –38.8°. Trouton const. 23.0 e.u., ΔH_{vap} 5.4 Kcal/mol.

Brinckman, F.E. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 6218 (*synth*)

Good, C.D. *et al*, *J. Chem. Eng. Data*, 1962, **7**, 416 (*chromatog, props*)

Steele, W.C. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 1154 (*ms*)

Holliday, A.K. *et al*, *J. Chem. Soc.*, 1964, 2731 (*synth*)

Hall, L.W. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 4527 (*nmr*)

Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)

C₂H₃BF₃O₂[⊖]**B-00082****Trihydro(trifluoroacetato-O)borate(1–), 10Cl***Trifluoroacetoxxytrihydroborate.**Trifluoroacetoxxyborohydride*

M 126.850 (ion)

Na salt: [61666-40-8].

C₂H₃BF₃NaO₂ M 149.839

Used for redn. of nitriles and of oxime ethers to amines.

Umino, N. *et al*, *Tetrahedron Lett.*, 1976, 2875.

Umino, N. *et al*, *Chem. Pharm. Bull.*, 1978, **26**, 2897 (*synth*)

Okushi, T., *CA*, 1981, **95**, 23491m (*rev, props*)

C₂H₄B₂Cl₄**B-00083****1,2-Bis(dichloroboryl)ethane**

1,2-Ethanediybis[dichloroborane], 10Cl, 9Cl. *Ethylenebis[dichloroborane]*, 8Cl

[20816-71-1]



M 191.486

Prepd. from B₂Cl₄ and ethylene. Stable liq., sensitive to air and moisture. Sol. THF. Mp –28.5°. Bp 142°.

ΔH_{evap} = 10,140 calmol.^{–1} Trouton const. 24.4 e.u.

Grant, U. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 5299 (*synth*)

Wadsley, A.D. *et al*, *Acta Crystallogr.*, 1957, **10**, 261 (*cryst struct*)

Massey, A.G. *et al*, *J. Chem. Soc.*, 1960, 5264 (*use*)

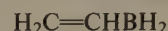
Haubold, W. *et al*, *Z. Allorg. Allg. Chem.*, 1974, **406**, 171 (*ir, nmr, raman*)

Reason, M.S. *et al*, *J. Organomet. Chem.*, 1974, **77**, C9 (*use*)

Haubold, W. *et al*, *Chem. Ber.*, 1980, **113**, 3352 (*use*)

C₂H₅B**B-00084****Vinylborane, 8Cl***Ethenylborane, 10Cl, 9Cl. Vinylborine*

[5856-70-2]



M 39.872

Probably exists as H-bridged dimer. Prepd. from BCl₃ and (H₂C=CH)₄Sn at r.t. Air- and moisture-sensitive liq. Sol. THF. Mp –111.1°. Bp 45.1°. Trouton const. 22.9 e.u., ΔH_{vap} 6.63 Kcalmol.^{–1}.

Brinckman, F.E. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 6218 (*synth*)

Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1967, **89**, 5086 (*use*)

Fisher, R.P., *Diss. Abstr. Int. B*, 1975, **35**, 4833 (*use*)

Hall, L.W., *Diss. Abstr. Int. B*, 1975, **36**, 2794 (*use*)

Apeloig, Y. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 1291 (*props*)

Bonacic, K.V. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 842 (*use*)

C₂H₅BBR₂**B-00085****Dibromoethylborane, 9Cl***Ethylboron dibromide. Ethyldibromoborane*

[17933-10-7]



M 199.680

Liq., air- and moisture-sensitive. d₂₀ 1.771. Bp 95°.

Vahrenkamp, H. *et al*, *J. Organomet. Chem.*, 1968, **11**, 399;

1968, **12**, 23 (*synth, nmr, pmr*)

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **719**, 169

(*synth*)

Storch, W. *et al*, *Synth. Inorg. Met.-Org. Chem.*, 1971, **1**, 197

(*synth*)

Haubold, G. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **420**, 251 (*ir*)

C₂H₅BCl₂**B-00086****Dichloroethylborane, 10Cl, 9Cl***Ethylboron dichloride. Ethyldichloroborane*

[1739-53-3]



M 110.778

Used to aid copolymerisations. Liq., sensitive to air and moisture. Bp 51.5°, Bp₁₀₀ 25°.

▷ Highly toxic, powerful irritant

Lengyel, B. *et al*, *Z. Anorg. Allg. Chem.*, 1963, **322**, 103 (*synth*)

Vahrenkamp, H. *et al*, *J. Organomet. Chem.*, 1968, **11**, 399;

1968, **12**, 23 (*synth, pmr*)

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **719**, 169

(*synth*)

Storch, W. *et al*, *Synth. Inorg. Metal-Org. Chem.*, 1971, **1**, 197

(*synth*)

Haubold, G. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **420**, 251 (*ir*)

Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)

Leleu, J., *Cah. Notes Doc.*, 1977, **88**, 361 (*haz*)

Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 561, 623.

C₂H₅BCl₂O**B-00087****Dichloroethoxyborane, 10Cl, 9Cl, 8Cl***Dichloroethoxyborine*

[16339-28-9]

EtOBCl₂

M 126.777

Liq., sensitive to moisture. Bp 79–80°. ΔH_f –158.3 kcal mol⁻¹. ΔH_{Hydrolysis} –42.5 kcal mol⁻¹.Gerrard, W. *et al*, *J. Chem. Soc.*, 1952, 1486 (*synth*)Skinner, H.A. *et al*, *J. Chem. Soc.*, 1954, 3930 (*props*)Abel, E.W. *et al*, *J. Chem. Soc.*, 1957, 501 (*synth, props*)Onak, T.P. *et al*, *J. Phys. Chem.*, 1959, 63, 1533 (*nmr*)Gerrard, W. *et al*, *J. Inorg. Nucl. Chem.*, 1967, 29, 943 (*synth*)Lappert, M.F., *J. Chem. Soc. (A)*, 1970, 2320 (*props*)C₂H₅BF₂

B-00088

Ethyl difluoroborane, 10Cl, 9Cl

Ethyl difluoroborane. Difluoroethylborane

[430-41-1]

EtBF₂

M 77.868

Prepd. from difluoroborane and ethylene or from Et₄Sn and BF₃. Air- and moisture-sensitive gas. Mp –101°. Bp –25°.*Py complex*: [22405-14-7]. Difluoroethylborane pyridine. Pyridine ethyl difluoroborane.C₇H₁₀BF₂N M 156.970*Me₃N complex*: [381-57-7].C₅H₁₄BF₂N M 136.979Prepd. by addn. of Me₃N to EtBF₂. Solid. Sol.CH₂Cl₂. Mp 25.3°. pmr δ 2.88 (CH₃) ppm.Brinckman, F.E. *et al*, *J. Am. Chem. Soc.*, 1960, 82, 6218 (*synth*)Coyle, T.D. *et al*, *J. Am. Chem. Soc.*, 1961, 83, 4138 (*deriv*)Steele, W.C. *et al*, *J. Am. Chem. Soc.*, 1962, 84, 1154 (*ms*)Coyle, T.D. *et al*, *Proc. Chem. Soc., London*, 1964, 25 (*synth*)Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1968, 717, 1 (*deriv*)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, 12, 23 (*nmr*)Barlos, K. *et al*, *Chem. Ber.*, 1977, 110, 2774 (*nmr*)C₂H₅BI₂

B-00089

Ethyl diiodoborane, 10Cl, 9Cl

Diiodoethylborane

[17933-07-2]

EtBI₂

M 293.681

Prepd. from tetraethylstannane and BI₃. Air-, moisture- and light-sensitive. Sol. CCl₄. pmr δ –1.59 (CH₂), –1.15 (CH₃) ppm.Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, 11, 399 (*synth*)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, 12, 23 (*nmr*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1978, 446, 45 (*raman, ir*)C₂H₅BO₂

B-00090

Dihydroxyvinylborane

Ethenylboronic acid, 10Cl, 9Cl. Ethenboronic acid, 8Cl.

Vinylboronic acid. Ethenyldihydroxyborane

[4363-34-2]

H₂C=CHB(OH)₂

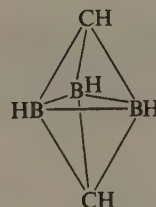
M 71.870

Synthetic intermed. Cryst. (C₆H₆). Polymerises almost immediately in air. Sol. THF. Mp 80–4° (74°).*Polymer*: Obt. spontaneously from monomer in air. Grey gum. Sol. v. dilute aq. alkali, THF, insol. other org. solvs.Normant, H. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1959, 248, 828 (*synth*)*Fr. Pat.*, 1 224 181, (1960); *CA*, 56, 12944h (*synth*)Seiji, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1966, 39, 2018 (*synth, polymers*)Braun, J. *et al*, *Bull. Soc. Chim. Fr.*, 1966, 2557 (*synth*)Solkan, V.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974,2623; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 23, 2532 (*nmr*)Kabalka, G.W. *et al*, *CA*, 1981, 85, 132208v (*use*)C₂H₅B₃

B-00091

1,5-Dicarbaheptaborane(5), 10Cl

[20693-66-7]



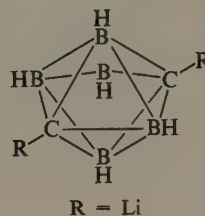
M 61.492

closo-. Colourless gas. Mp –126.4°. Bp –3.7°.Shapiro, I. *et al*, *J. Am. Chem. Soc.*, 1962, 84, 3837 (*ir, ms, nmr*)Ditter, J. *et al*, *Inorg. Chem.*, 1970, 9, 889 (*synth*)C₂H₅B₅Li₂

B-00092

μ-2,4-Dicarbaheptaborane(7)-2,4-diyl dilithium, 9Cl
2,4-Dilithio-2,4-dicarbaheptaborane(7)

[38386-34-4]



R = Li

M 96.994

closo-. Precursor for the preparation of σ-substituted derivatives eg. for polymer formation. Sol. Et₂O, C₆H₆.Kesting, R. *et al*, *J. Appl. Polymer Sci.*, 1970, 14, 2525 (*synth*)Olsen, R. *et al*, *J. Am. Chem. Soc.*, 1970, 92, 5072 (*synth*)C₂H₆BBr

B-00093

Bromodimethylborane, 10Cl, 9Cl, 8Cl

Bromodimethylborane. Dimethylbromoborane

[5158-50-9]

Me₂BBr

M 120.783

Air- and moisture-sensitive liq. Bp₇₂₀ 30°.Schabacher, W. *et al*, *Z. Anorg. Allg. Chem.*, 1958, 294, 183 (*synth*)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, 11, 399; 12, 23 (*synth, pmr*)Nöth, H. *et al*, *Chem. Ber.*, 1974, 107, 3089 (*pmr*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, 109, 1075 (*pmr*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, 420, 251(*synth*)Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1977, 132, 29 (*cmr*)

C₂H₆BBr₂N**B-00094**

[868-81-5]

Dibromo(dimethylamino)borane, 8Cl*1,1-Dibromo-N,N-dimethylboranamine, 10Cl, 9Cl.**Dibromo(dimethylamino)borine*

[7360-64-7]

Br₂BNMe₂

M 214.694

Moisture-sensitive liq. Bp₁ 49-51°.*Dimer:* [7392-26-9].C₄H₁₂B₂Br₄N₂ M 429.388

Characterized spectroscopically.

Banister, A.J. *et al*, *J. Chem. Soc.*, 1964, 995 (*synth, ir*)Nöth, H. *et al*, *Chem. Ber.*, 1967, **100**, 3353 (*dimer, nmr*)Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (*nmr*)King, G.H. *et al*, *Faraday Discuss. Chem. Soc.*, 1972, **54**, 70 (*pe*)Bryukhova, E.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 1614 (*Engl. trans. p. 1529*) (*nmr*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **421**, 105 (*synth, nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)**C₂H₆BBr₃S****B-00095****Tribromoborane dimethyl sulfide***Tribromo[thiobis[methane]]boron, 10Cl. Thiobis[methane] compd. with tribromoborane(1:1), 9Cl. Methyl sulfide compd. with boron bromide(BBr₃)(1:1), 8Cl*

[29957-59-3]

Me₂S—BBr₃

M 312.651

Convenient means of handling the otherwise highly moisture-sensitive compd., BBr₃. White amorph. powder, stable to brief exp. to air or long-term storage under N₂. Mp 108°.Schmidt, M. *et al*, *Chem. Ber.*, 1970, **103**, 3705 (*pmr*)Peach, M.E., *Inorg. Nucl. Chem. Lett.*, 1971, **7**, 75.Bula, M.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1973, 1047 (*nmr, synth*)Kinberger, K. *et al*, *Z. Naturforsch., B*, 1975, **30**, 55 (*synth*)Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 2938 (*synth, pmr*)Williard, P.G. *et al*, *Tetrahedron Lett.*, 1980, **21**, 3731.**C₂H₆BCl****B-00096****Chlorodimethylborane, 10Cl, 9Cl***Chlorodimethylborine. Dimethylchloroborane*

[1803-36-7]

Me₂BCl

M 76.332

Not easily separable from dichloromethylborane, generally formed in admixture with it. Easily liquified gas, sensitive to air and moisture. Bp 5°.

▷Prob. pyrophoric in air

Becher, H.J., *Z. Anorg. Allg. Chem.*, 1953, **271**, 243 (*synth, ir*)Barnes, R.L. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 360 (*synth*)de Moor, J.D. *et al*, *J. Organomet. Chem.*, 1966, **6**, 235 (*nmr*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **420**, 251 (*synth, ir*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*nmr*)Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)**C₂H₆BClO₂****B-00097****Chlorodimethoxyborane, 10Cl, 9Cl***Chlorodimethoxyborine***C₂H₆BCl₃S****B-00098****Trichloroborane dimethyl sulfide***Trichloro[thiobis[methane]]boron, 10Cl. Thiobis[methane] compd. with trichloroborane(1:1), 9Cl. Methyl sulfide compd. with boron chloride(BCl₃)(1:1), 8Cl*

[5523-19-3]

Me₂S—BCl₃

M 179.298

Convenient means of handling trichloroborane, which is otherwise much more volatile and moisture-sensitive.

White solid, stable on brief exp. to air or long-term storage under N₂. Mp 86-7° (85-90°). Bp 181.9°.Morris, H.L. *et al*, *Inorg. Chem.*, 1966, **5**, 124.Schmidt, M. *et al*, *Chem. Ber.*, 1970, **103**, 3705 (*pmr*)Bula, M.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1973, 1047 (*nmr, synth*)Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 2938 (*synth, pmr*)Williard, P.G. *et al*, *Tetrahedron Lett.*, 1980, **21**, 3731.Glavincevski, B. *et al*, *Can. J. Chem.*, 1981, **59**, 3012 (*nmr*)**C₂H₆BF****B-00099****Fluorodimethylborane, 10Cl, 9Cl, 8Cl***Dimethylfluoroborane. Fluorodimethylborine*

[353-46-8]

FBMe₂

M 59.878

Prepd. from Me₂BCl and SbF₃ or from BF₃ and Me₂BNH₂. Air- and moisture-sensitive gas. Sol.CHCl₃. Dipole moment 1.34D. ¹¹Bnmr δ 42 ppm.Becher, H.J., *Z. Anorg. Allg. Chem.*, 1957, **291**, 151 (*raman*)Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089 (*nmr*)Fuss, W. *et al*, *CA*, 1975, **82**, 138775f (*uv*)Berger, H.O. *et al*, *Chem. Ber.*, 1976, **109**, 2266 (*pe*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **420**, 251 (*synth*)Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)**C₂H₆BFO₂****B-00100****Fluorodimethoxyborane, 10Cl, 9Cl, 8Cl***Dimethoxyfluoroborane. Fluorodimethoxyborine*

[367-46-4]

(MeO)₂BF

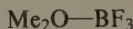
M 91.877

Prepd. from tetramethoxysilane and BF₃ at -80°. Stable as a gas, but on condensation undergoes partial redistribution at -30°, giving F₂BOMe and B(OMe)₃. Sol. THF. Bp 52.7°. Dipole moment 1.91D.Wiberg, E. *et al*, *Z. Naturforsch., B*, 1953, **8**, 608 (*synth*)de Moor, J.E. *et al*, *J. Organomet. Chem.*, 1966, **6**, 235 (*nmr*)

Burya, G.F. *et al*, *Zh. Fiz. Khim.*, 1970, **44**, 1596 (*ir*)
 Lappert, M.F. *et al*, *Colloq. Int. Cent. Nat. Rech. Sci.*, 1970, **191**, 241; *CA*, **73**, 103772g (*props*)
 Rauchschalbe, G. *et al*, *Helv. Chim. Acta*, 1975, **58**, 1094 (*use*)
 Hoffmann, R.W. *et al*, *J. Org. Chem.*, 1981, **46**, 1309 (*use*)

C₂H₆BF₃O**B-00101****Trifluoroborane dimethyl ether**

Trifluoro[oxybis[methane]]boron, 10Cl. Oxybis[methane] compd. with trifluoroborane(1:1), 9Cl. Methyl ether compd. with boron fluoride(BF₃)(1:1), 8Cl. Trifluoroborane compd. with oxybis[methane](1:1). Boron trifluoride dimethyl etherate
 [353-42-4]



M 113.874

Catalyst for epoxide reactions. Comly. available.

Moisture-sensitive liq. d 1.239. Mp -14°. Bp 126-7°. *n*_D²⁰ 1.3079. Dipole moment 7.6D.

▷Corrosive, flammable. ED8400000.

Derouault, J. *et al*, *Spectrochim. Acta, Part A*, 1972, **28**, 359 (*raman*, *ir*)

Fratiello, A. *et al*, *J. Org. Chem.*, 1972, **37**, 2237 (*nmr*)

Fratiello, A. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1975, 1415 (*cmr*)

Borovikov, Y.Y. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 2531.

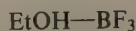
Umeyama, H., *Chem. Pharm. Bull.*, 1980, **28**, 1633 (*struct*)

Hirota, F. *et al*, *J. Mol. Struct.*, 1981, **70**, 305 (*struct*)

C₂H₆BF₃O**B-00102****Trifluoroborane ethanol**

(Ethanol)trifluoroboron, 10Cl. Ethanol compd. with trifluoroborane(1:1), 9Cl. Ethyl alcohol compd. with boron fluoride(1:1), 8Cl

[353-41-3]



M 113.874

Diehl, P. *et al*, *Nature (London)*, 1957, **180**, 1114 (*synth*, *nmr*)

Babushkin, A.A., *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1958, 1131 (*ir*, *raman*)

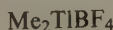
Babushkin, A.A. *et al*, *Optika i Spektroskopiya*, 1958, **5**, 256; *CA*, **53**, 1919g (*struct*)

Diehl, P., *Helv. Phys. Acta*, 1958, **31**, 685 (*nmr*)

Burya, G.F. *et al*, *Zh. Fiz. Khim.*, 1975, **49**, 1227 (*synth*, *ir*)

C₂H₆BF₄Tl**B-00103****Dimethyl(tetrafluoroborato)thallium**

Dimethylthallium tetrafluoroborate



M 321.256

Solid (THF).

▷Toxic

Shies, G.D. *et al*, *J. Organomet. Chem.*, 1966, **5**, 330 (*synth*, *pmr*, *ir*)

Burke, P.J. *et al*, *J. Chem. Res. (S)*, 1981, 124 (*pmr*, *cmr*, *nmr*)

C₂H₆BI**B-00104****Iododimethylborane, 10Cl, 9Cl, 8Cl**

Dimethyliodoborane

[17933-09-4]



M 167.784

Prepd. from BI₃ and SnMe₄. Air- and moisture-sensitive liq. Sol. THF. Bp₇₂₀ 65°. ¹¹Bnmr δ 79.1 ppm.

Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **11**, 399 (*synth*)

Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*nmr*)

Riegel, F. *et al*, *Z. Naturforsch., B*, 1974, **29**, 719 (*use*)

Siebert, W. *et al*, *Z. Anorg. Allg. Chem.*, 1975, **418**, 273 (*use*)

Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1978, **446**, 45 (*ir*)

Haubold, W. *et al*, *Z. Naturforsch., B*, 1978, **33**, 140 (*synth*)

C₂H₆BN**B-00105****Borane isocyanomethane**

Trihydro(isocyanomethane)boron, 10Cl. Methyl isocyanide borane

[62630-46-0]



M 54.886

Dipole moment 6.73D.

Stevens, J.F. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 1442 (*struct*, *microwave*, *synth*)

Umeyama, H. *et al*, *Chem. Pharm. Bull.*, 1980, **28**, 2279.

Bevan, J.W. *et al*, *Spectrochim. Acta, Part A*, 1981, **37**, 601 (*pe*)

Watari, F., *Inorg. Chem.*, 1982, **21**, 1442 (*ir*, *raman*)

C₂H₆BO₂[⊖]**B-00106**

(Acetato-O)trihydroborate(1-), 10Cl

Acetoxytrihydroborate. Acetoxyborohydride



M 72.878 (ion)

Na salt: [63947-71-7].

C₂H₆BO₂Na M 95.868Reducing agent. Usually prepd. *in situ*.

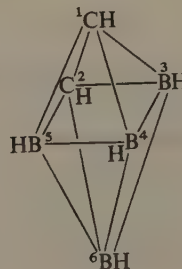
Japan. Pat., 77 36 606, (1977); *CA*, **87**, 134467n (*use*)

Umino, N. *et al*, *Chem. Pharm. Bull.*, 1978, **26**, 2897 (*synth*, *props*)

Japan. Pat., 79 70 262, (1979); *CA*, **91**, 211258g

C₂H₆B₄**B-00107****1,2-Dicarbahehexaborane(6)**

[20693-68-9]



M 73.309

closo-. Colourless liq. Isom. at 250° to 1,6-Dicarbahehexaborane(6), B-00108.

Shapiro, I. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 3167 (*synth*, *nmr*, *ms*)

Onak, T. *et al*, *Inorg. Chem.*, 1964, **3**, 1686 (*nmr*)

Beaudet, R. *et al*, *J. Chem. Phys.*, 1970, **53**, 1899 (*microwave*)

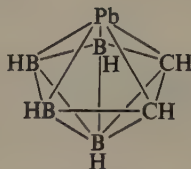
C₂H₆B₄**B-00108****1,6-Dicarbahehexaborane(6), 10Cl**

[20693-67-8]

M 73.309

closo-. Colourless liq. Mp –29.5° (–32.6°). Bp 22.7°.Shapiro, I. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 3167 (*synth*, *ir*, *nmr*)Ditter, J. *et al*, *Inorg. Chem.*, 1970, **9**, 889 (*synth*)**C₂H₆B₄Pb****B-00109****2,3-Dicarba-1-plumbaheptaborane(6)**, 10Cl

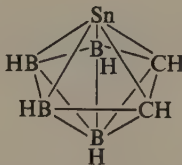
[63181-05-5]



M 280.509

closo-. Light-yellow solid. Sol. CH₂Cl₂. Dec. at r.t. but stable at 0°. Subl. at 20°/0.0001 mm.Wong, K. *et al*, *Inorg. Chem.*, 1977, **16**, 2053 (*synth*, *ir*, *nmr*, *ms*)**C₂H₆B₄Sn****B-00110****2,3-Dicarba-1-stannaheptaborane(6)**, 10Cl

[63181-06-6]



M 191.999

closo-. Off-white solid. Sol. CH₂Cl₂. Subl. at 70–120°/0.0001 mm onto cold finger.Wong, K. *et al*, *Inorg. Chem.*, 1977, **16**, 2053 (*synth*, *ir*, *nmr*, *ms*)**C₂H₇B****B-00111****Dimethylborane**, 10Cl, 9Cl*Dimethylborine*

[7216-97-9]



M 41.887

Exists as the H-bridged dimer in the uncomplexed state.

Air- and moisture-sensitive. Sol. THF.

Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089 (*nmr*)Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1975, 1339 (*props*)Spielvogel, B.F. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 1609 (*nmr*)*U.S.P.*, 4 012 230, (1977); *CA*, **87**, 10124d (*synth*)Dewar, M.J.S. *et al*, *Inorg. Chem.*, 1978, **17**, 1075 (*use*)Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)**C₂H₇B****B-00112****Ethylborane**, 10Cl, 9Cl*Ethylborine*

[25070-50-2]



M 41.887

Exists as H-bridged dimer in the uncomplexed state. Air- and moisture-sensitive. Sol. THF. Easily disproportionates to borane, diethylborane etc.

Ph₃P complex: Ethylborane triphenylphosphine.C₂₀H₂₂BP M 304.178

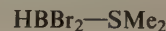
Formed in redn. of triphenylphosphine oxide by ethylborane. Sol. THF. Mp 115°.

Et₂PH complex: [22864-44-4]. Diethylphosphine ethylborane. Ethylborane diethylphosphine.C₆H₁₈BP M 131.992Prepd. from Et₂PH and R₃NBET₂H. Sol. THF.*Dipropylphosphine* complex: [22864-45-5]. Ethylborane dipropylphosphine.C₈H₂₂BP M 160.046

Sol. THF.

B.P., 823 327, (1959); *CA*, **54**, 12995 (*synth*)Falbe, J. *et al*, *Chem. Ber.*, 1965, **98**, 2312 (*deriv*)Jugie, G. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1969, **268**, 1377 (*deriv*)Steck, S.J. *et al*, *J. Phys. Chem.*, 1969, **73**, 1000 (*synth*)Gallais, F. *et al*, *J. Chim. Phys. Phys. Chim. Biol.*, 1970, **67**, 934 (*deriv*)Köster, R. *et al*, *Am. Chem. Soc. Symp. Ser.*, 1976, **39**, 1 (*rev*)**C₂H₇BBr₂S****B-00113****Dibromoborane dimethyl sulfide***Dibromohydro[thiobis[methane]]boron*, 10Cl

[55671-55-1]



M 233.755

Hydroborating agent for alkenes and alkynes with a high regiospecificity of hydroboration; provides a route to alkylidibromoboranes and alkylidihydroxyboranes. Air- and moisture-sensitive solid. Mp 30–3°.

Kinberger, K. *et al*, *Z. Naturforsch., B*, 1975, **30**, 55.Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 2938 (*synth*, *nmr*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 7097.Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 384, 389.**C₂H₇BCl₂S****B-00114****Dichloroborane dimethyl sulfide***Dichlorohydro[thiobis[methane]]boron*, 10Cl. *Dichloroborane methyl sulfide*

[63462-42-0]



M 144.853

Stable hydroborating agent with high reaction regiospecificity. Clear viscous liq., remarkably stable though slowly dec. by moisture.

Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 2938 (*synth*, *nmr*)Brown, H.C. *et al*, *J. Org. Chem.*, 1977, **42**, 2533; 1980, **45**, 384 (*use*)Dodds, A.R. *et al*, *Inorg. Chem.*, 1979, **18**, 1465 (*synth*, *nmr*)**C₂H₇BCl₃N****B-00115****Trichloroborane dimethylamine***Trichloro(N-methylmethanamine)boron*, 10Cl. *N-Methylmethanamine* compd. with trichloroborane(1:1), 9Cl. *Dimethylamine boron trichloride*. *Dimethylamine trichloroborane*

[13072-44-1]



M 162.253

Fuming white solid or cryst. (CHCl₃), relatively stable to short air exp.Kiesel, R. *et al*, *Inorg. Chem.*, 1973, **12**, 1090 (*ir*)

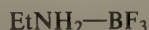
Myers, W.H. *et al*, *Inorg. Chem.*, 1975, **14**, 2874 (*pmr*)
 Ryschkewitsch, G.E. *et al*, *Synth. React. Inorg. Metal-Organ. Chem.*, 1975, **5**, 123 (*synth*)
 Myers, W.H. *et al*, *Inorg. Chem.*, 1978, **17**, 1157 (*nmr*)
 Haubold, W. *et al*, *Chem. Ber.*, 1980, **113**, 2333 (*synth*)

C₂H₇BF₃N

B-00116

Trifluoroborane ethylamine

(Ethanamine)trifluoroboron, 10Cl. Ethanamine compd. with trifluoroborane, 9Cl. Ethylamine compd. with boron fluoride (BF₃)(1:1), 8Cl. Boron trifluoride ethylamine. Ethylaminoboron trifluoride
 [75-23-0]



M 112.889

Widely used as a catalyst in industrial processes. Cryst. Et₂O, dec. rapidly when heated in air above Mp. Sol. C₆H₆, sl. sol. Et₂O. Mp 75-6°, 89°. Bp₁ 147-8°.

▷KQ8060000.

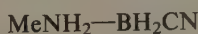
Kraus, C.A. *et al*, *J. Am. Chem. Soc.*, 1929, **51**, 2690 (*synth*)
 Gallais, F. *et al*, *CA*, 1960, **54**, 16064d (*struct. mord*)
 Spitsyn, V.I. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1965, **160**, 1101 (*synth*)
 Meek, D.W. *et al*, *Inorg. Chem.*, 1966, **5**, 445 (*nmr*)
 Elter, G. *et al*, *J. Organomet. Chem.*, 1972, **36**, 257.
 Barber, M. *et al*, *J. Chem. Soc., Faraday Trans. 2*, 1973, **69**, 551 (*pe*)

C₂H₇BN₂

B-00117

Cyanoborane methylamine

(Cyano-C)dihydro(methanamine)boron, 10Cl. Borane-carbonitrile, compd. with methanamine(1:1)
 [66632-42-6]



M 69.901

Sol. Et₂O. All attempts to crystallise or sublime this compd. were unsuccessful.

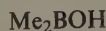
Wisian-Neilson, P. *et al*, *Inorg. Chem.*, 1978, **17**, 2327 (*synth, pmr, ir*)

C₂H₇BO

B-00118

Hydroxydimethylborane

Dimethylborinic acid, 10Cl, 9Cl. Dimethylboric acid. Dimethylhydroxyborane
 [13061-97-7]



M 57.887

Liq. Bp₃₆ 0°.

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 2228; 1953, **75**, 3872 (*synth*)
 Goubeau, J. *et al*, *Z. Phys. Chem. (Wiesbaden)*, 1959, **20**, 15 (*ir, raman*)
 de Moor, J.E. *et al*, *J. Organomet. Chem.*, 1967, **9**, 3 (*ir*)
 Vahrenkamp, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)
 Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 600.

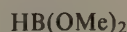
C₂H₇BO₂

B-00119

Dimethoxyborane, 10Cl, 9Cl

Dimethoxyborine. Boronic acid dimethyl ester

[4542-61-4]



M 73.886

Prepd. from diborane and MeOH. Colourless liq., rapidly hydrol. in air, rapidly dec. at high temp. Sol. THF. Bp 25.9°. V.p. 275 mm at 0°. ΔH_{f(liq.)} -145.3 Kcalmol.⁻¹.

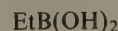
Burg, A. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 4020 (*synth*)
 Law, R.W. *et al*, *J. Chem. Phys.*, 1956, **25**, 1086 (*ms*)
 Onak, T.P. *et al*, *J. Phys. Chem.*, 1959, **63**, 1533 (*pmr*)
 Uchida, H.S. *et al*, *J. Phys. Chem.*, 1959, **63**, 1414 (*props*)
 Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089 (*nmr*)
 Jeffers, P.M. *et al*, *Inorg. Chem.*, 1981, **20**, 1698 (*synth*)

C₂H₇BO₂

B-00120

Ethylidihydroxyborane

Ethylboronic acid, 10Cl, 9Cl. Ethylboric acid. Ethaneboronic acid
 [4433-63-0]



M 73.886

Fungicide and fuel additive. Acetylcholinesterase inhibitor. Useful for protection of diols. Cryst. (Et₂O). Subl. at 40°.

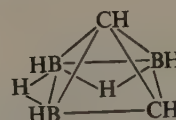
Khotinsky, E. *et al*, *Ber.*, 1909, **42**, 3095 (*synth*)
 Ger. Pat., 1 111 181, (1957); *CA*, **56**, 8742 (*synth*)
 Washburn, R.M. *et al*, *Adv. Sci. Ser.*, 1961, **32**, 208 (*synth*)
 Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)
 Jarv, J. *et al*, *Bioorg. Khim.*, 1978, **4**, 1364 (*pharmacol*)

C₂H₇B₃

B-00121

1,2-Dicarapentaborane(7), 10Cl

[26249-71-8]



M 63.507

nido-. Colourless liq. by vacuum fractionation. Polymerises at 50°.

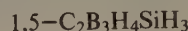
Franz, D. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 1438 (*synth, ir, nmr*)

C₂H₇B₃Si

B-00122

1-Silyl 1,5-dicarapentaborane(5), 9Cl

[55906-09-7]



M 91.593

Thompson, M.L. *et al*, *Inorg. Chem.*, 1972, **11**, 1925 (*ir*)
 Leach, J.B. *et al*, *J. Chem. Soc., Dalton Trans.*, 1975, 1018 (*synth, nmr, ms*)

C₂H₇B₅

B-00123

2,4-Dicarbaheptaborane(7), 10Cl

[20693-69-0]

As μ-2,4-Dicarbaheptaborane(7)-2,4-diyl dilithium, B-00092 with



M 85.127

closo-. Parent compd. incorporated into high temp. polymers as silicon derivs. Colourless liq. by vacuum fractionation.

Beaudet, R. *et al*, *J. Chem. Phys.*, 1965, **43**, 2166 (*struct, micro-wave*)
 Onak, T. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 4622 (*nmr, ir*)
 Ditter, J. *et al*, *Inorg. Chem.*, 1968, **7**, 1748; 1970, **9**, 899 (*synth*)
 Jotham, R. *et al*, *J. Chem. Soc. (A)*, 1971, 3181 (*ir, raman*)
 Onak, T. *et al*, *J. Chem. Soc., Dalton Trans.*, 1973, 76 (*ms*)
 Ditter, J. *et al*, *Inorg. Chem.*, 1976, **15**, 1063 (*nmr*)

C₂H₈BBrS**B-00124****Bromoborane dimethyl sulfide**

Bromodihydro[thiobis[methane]]boron, 10Cl. Bromoborane compd. with thiobis[methane](1:1), 9Cl
 [55652-52-3]



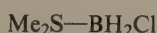
M 154.859

V. useful, stable reagent for selective hydroborations and prepn. of dialkylbromoboranes. Clear liq., sensitive to moisture. Sol. many aprotic solvs., particularly ethers and chlorinated hydrocarbons.

Kinberger, K. *et al*, *Z. Naturforsch., B*, 1975, **30**, 55 (*synth*)
 Brown, H.C. *et al*, *Synthesis*, 1977, 695 (*synth*)
 Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2417, 2422.
 Wisian-Neilson, P. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **41**, 1545 (*synth*)
 Foret, C.J. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **41**, 1661 (*synth*)

C₂H₈BClS**B-00125****Chloroborane dimethyl sulfide**

Chlorodihydro[thiobis(methane)]boron, 10Cl. Chloroborane compd. with thiobis(methane)(1:1)
 [63348-81-2]



M 110.408

A useful source for prepn. of dialkylchloroboranes and dialkyl(hydroxy)boranes. Colourless viscous liq., indefinite stability at r.t. in the absence of moisture; hydrol. by H₂O. As usually prepared, contains a few per cent of BH₃SMe₂ and BHCl₂SMe₂.

Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 2938 (*synth, pmr, nmr*)
 Brown, H.C. *et al*, *J. Org. Chem.*, 1977, **42**, 2533 (*synth*)
 Kulkarni, S.V. *et al*, *J. Org. Chem.*, 1979, **44**, 1747.
 Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2417, 2422; 1980, **45**, 4540.
 Paget, W.E. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 1169 (*synth*)

C₂H₈BF₂N**B-00126****Diffuoroborane dimethylamine**

Diffuorohydro(N-methylmethanamine)boron, 10Cl. Diffuoroborane N-methylmethanamine. Dimethylamine difluoroborane
 [42525-42-8]



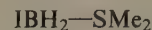
M 94.899

White solid below -50°; phys. state not recorded at r.t.
 Sol. CCl₄, CH₂Cl₂.

Tuchagues, J.P. *et al*, *J. Organomet. Chem.*, 1973, **54**, 69 (*synth, ir, nmr*)
 Van Paasschen, J.M. *et al*, *Inorg. Chem.*, 1978, **17**, 3302.

C₂H₈BIS**B-00127****Iodoborane dimethyl sulfide**

Dihydroiodo[thiobis[methane]]boron, 10Cl. Iodoborane complex with thiobis[methane], 9Cl. Iodoborane methyl sulfide. Dimethyl sulfide iodoborane. MIBS
 [55652-50-1]



M 201.860

Synth. from borane dimethylsulfide, iodine and triodoborane. Useful hydroborating agent for the synth. of dialkyliodoboranes. Stable cryst., slowly hydrol. in moist air.

Kinberger, K. *et al*, *Z. Naturforsch., B*, 1975, **30**, 55 (*synth, nmr*)
 Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2417, 2422 (*use*)

C₂H₈BN**B-00128****Aminodimethylborane, 8Cl**

1,1-Dimethylboranamine, 10Cl, 9Cl. Aminodimethylborine
 [15973-91-8]



M 56.902

Air- and moisture-sensitive.

Dimer: [30442-90-1].

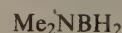
C₄H₁₆B₂N₂ M 113.804

Characterised spectroscopically.

Hoffmann, R., *J. Chem. Phys.*, 1964, **40**, 2474.
 Chakrabarty, M.R. *et al*, *Inorg. Chem.*, 1967, **6**, 518.
 Nöth, H. *et al*, *Chem. Ber.*, 1967, **100**, 3353 (*dimer*)
 Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)
 Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)

C₂H₈BN**B-00129****(Dimethylamino)borane, 8Cl**

N,N-Dimethylboranamine, 10Cl, 9Cl. (Dimethylamino)-borine
 [1838-13-7]



M 56.902

Dimeric at r.t., dissociates at higher temps. Reducing agent. Used in photographic development and nickel plating.

Dimer: [26085-03-0].

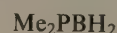
C₄H₁₆B₂N₂ M 113.804

Solid by subl. Mp 74.3-74.5°. V.p. 9.1mm at 23°.

Hoffmann, R., *J. Chem. Phys.*, 1964, **40**, 2474.
 Nöth, H. *et al*, *Chem. Ber.*, 1967, **100**, 3353 (*nmr*)
 Spielman, J.R., *J. Chem. Educ.*, 1970, **47**, 225 (*synth*)
 Bock, H. *et al*, *Chem. Ber.*, 1971, **104**, 1687 (*pe*)
 Burg, A.B., *Inorg. Chem.*, 1973, **12**, 1448.
 Nöth, H. *et al*, *Inorg. Chem.*, 1982, **21**, 706 (*struct*)

C₂H₈BP**B-00130****(Dimethylphosphino)borane, 10Cl, 9Cl, 8Cl**

Boryldimethylphosphine, 9Cl. (Dimethylphosphino)-borine
 [43625-73-6]



M 73.869

Prepd. by thermolysis of Me₂PH-BH₃. Unstable with respect to trimer, tetramer and not isol. in monomeric form.

Trimer:

C₆H₂₄B₃P₃ M 221.607
Sol. THF. Mp 86°. Bp 235° (est.).

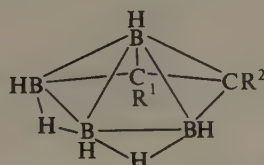
Tetramer:

C₈H₃₂B₄P₄ M 295.476
Sol. THF. Mp 161°. Bp 310° (est.).

Homopolymer: [69773-26-8]. Used in electrophotographic plate insulating layers.

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 3872 (*synth*)
Florin, R.E. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 3344 (*ms*)
Hamilton, W.C. *et al*, *Acta Crystallogr.*, 1955, **8**, 199 (*struct*)
Burg, A.B. *et al*, *J. Inorg. Nucl. Chem.*, 1959, **11**, 258.
Wall, L.A. *et al*, *J. Res. Nat. Bur. Stand.*, 1959, **63**, 63 (*ms*)
Nöth, H. *et al*, *Z. Naturforsch.*, **B**, 1960, **15**, 327 (*synth, use*)

C₂H₈B₄
2,3-Dicarbahexaborane(8)
[18972-20-8]

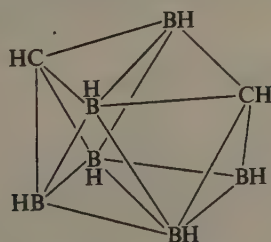


R¹=R²=H

M 75.325
closo-. Colourless liq. Bp 56.9°.

Onak, T. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 2830 (*nmr*)
Streib, W. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 2331 (*struct*)
Onak, T. *et al*, *Inorg. Chem.*, 1966, **5**, 439 (*synth, ir, nmr*)

C₂H₈B₆
1,7-Dicarbaoctaborane(8), 10Cl
[23732-90-3]



M 96.945
closo-. Sol. pentane. Mp 30°. Purif. by vacuum dist.

Garrett, P. *et al*, *Inorg. Chem.*, 1969, **8**, 1907 (*ir, nmr*)
Muettterties, E. *et al*, *Inorg. Chem.*, 1975, **14**, 950 (*nmr*)
Rogers, H. *et al*, *Inorg. Chem.*, 1976, **15**, 1775.

C₂H₉BCIN
Chloroborane dimethylamine
Chlorodihydro(N-methylmethanamine)boron, 10Cl.
Chloroborane compd. with N-methylmethanamine(1:1),
9Cl. N-Methylmethanamine compd. with chloroborane(1:
1)
[52920-74-8]

Me₂NH—BH₂Cl

M 93.363
Moisture-sensitive solid. Mp 18°.

Nöth, H. *et al*, *Chem. Ber.*, 1960, **93**, 225 (*synth*)
Beachley, O.T. *et al*, *Inorg. Chem.*, 1975, **14**, 120 (*pmr*)
Myers, W.H. *et al*, *Inorg. Chem.*, 1975, **14**, 2874 (*synth, pmr*)
Myers, W.H. *et al*, *Inorg. Chem.*, 1978, **17**, 1157 (*nmr*)
Balulescu, C.R. *et al*, *Inorg. Chem.*, 1978, **17**, 3707.

C₂H₉BKN[⊖]
B-00134

Dimethylaminotrihydroborate(1-)
Trihydro(N-methylmethanaminato)borate(1-), 10Cl,
9Cl. Dimethylaminoborohydride(1-)

Me₂N—BH₃[⊖]

M 97.008 (ion)

Li salt: [53042-33-4].

C₂H₉BLiN M 64.851

Na salt: [20596-52-5].

C₂H₉BNNa M 80.900

Has anticholesteremic and hypolipidemic props.

K salt: [43210-87-3].

C₂H₉BKN M 97.008

Keller, P.C., *Synth. React. Inorg. Metal-Org. Chem.*, 1973, **3**, 307 (*props*)

Keller, P.C., *Inorg. Chem.*, 1975, **14**, 438 (*props*)

Keller, P.C., *Inorg. Chem.*, 1975, **14**, 440 (*synth*)

Strouf, O. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 391 (*props*)

Balulescu, C.R. *et al*, *Inorg. Chem.*, 1978, **17**, 3707.

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1981, **70**, 339 (*pharmacol*)

C₂H₉BS
B-00135
Borane dimethyl sulfide

Trihydro[thiobis[methane]]boron, 10Cl. Borane compd.
with thiobis[methane](1:1), 9Cl. Methyl sulfide compd.
with borane, 8Cl. Borine compd. with Me₂S
[13292-87-0]

Me₂S—BH₃

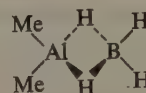
M 75.963

Reducing agent. Hydroborating agent which may be used
in a variety of solvs. Produced comly. Moisture-
sensitive colourless liq. at r.t. Fp -27°, -38°.

▷ Flammable

Heal, H.G., *J. Inorg. Nucl. Chem.*, 1960, **12**, 255 (*synth, ir*)
Young, D.E. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 4390 (*nmr*)
Lane, C.F., *Chem. Rev.*, 1976, **76**, 773 (*rev, use*)
Yamamoto, Y. *et al*, *Yuki Gosei Kagaku Kyokaiishi*, 1979, **37**,
1008; *CA*, **92**, 139884j (*synth*)
Krishnamurthy, S. *et al*, *J. Org. Chem.*, 1980, **45**, 849.
Brown, H.C. *et al*, *Synthesis*, 1981, 996.
Mancilla, T. *et al*, *Tetrahedron Lett.*, 1982, **23**, 1561.

C₂H₁₀AlB
B-00136
Dimethyl[tetrahydroborato(1-)-H,H']aluminum, 10Cl
Dimethylaluminum borohydride. Dimethyl[tetrahydro-
borato(1-)-H,H']alane
[17713-04-1]



M 71.893

Mp 14-5°.

Me₃N complex: [60236-48-8]. (N,N-Dimethylmethana-
mine)dimethyl[tetrahydroborato(1-)-H,H']alumi-
num, 9Cl.

C₅H₁₉AlBN M 131.003

Not fully descr.

Me₃P complex: [60236-49-9]. Dimethyl[tetrahydrobor-
ato(1-)-H,H'](trimethylphosphine)aluminum, 9Cl.

C₅H₁₉AlBP M 147.970

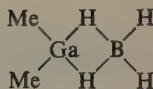
Not fully descr.

Oddy, P.R. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 869
(*synth, ir, pmr, nmr, complexes*)
Barlow, M.T. *et al*, *J. Chem. Soc., Dalton Trans.*, 1979, 1793
(*synth, struct*)

Colourless liq.
Thompson, M.L. *et al*, *Inorg. Chem.*, 1972, **11**, 1925 (*ir, nmr, ms, struct, synth*)

C₂H₁₀BGa**B-00137**

Dimethyl[tetrahydroborato(1-)-H,H']gallium, 10Cl
[68264-40-4]



M 114.631
Monomeric. Liq. Mp 1°.
Downs, A.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1978, 809
(*synth, ms, ir, raman, nmr*)
Barlow, M.T. *et al*, *J. Chem. Soc., Dalton Trans.*, 1979, 1793.

C₂H₁₀BN**B-00138****Borane dimethylamine**

Trihydro(N-methylmethanamine)boron, 10Cl. N-Methylmethanamine compd. with borane(1:1), 9Cl. Dimethylamine compd. with borane(1:1), 8Cl
[74-94-2]



M 58.918
Used in electroless plating of nickel and copper and in photographic developers. Reducing agent. Solid. Mp 37°. Bp_{0.01} 49°. Dec. at 150°.

▷IP9450000.

Nöth, H. *et al*, *Chem. Ber.*, 1960, **93**, 928 (*props*)
Brown, M.P. *et al*, *J. Chem. Soc. (A)*, 1970, 410 (*ir*)
Lloyd, D.R. *et al*, *J. Chem. Soc., Faraday Trans. 2*, 1972, **68**, 947 (*pe*)
Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3070 (*nmr*)
Beachley, O.T. *et al*, *Inorg. Chem.*, 1975, **14**, 120 (*pmr*)
Kovar, R.A. *et al*, *Inorg. Chem.*, 1975, **14**, 2239 (*synth, ir*)
Myers, W.H. *et al*, *Inorg. Chem.*, 1975, **14**, 2874 (*pmr*)

C₂H₁₀BP**B-00139****Borane dimethylphosphine**

(Dimethylphosphine)trihydroboron, 10Cl. Dimethylphosphine, compd. with borane(1:1), 9Cl, 8Cl. Dimethylphosphine borine
[4268-35-3]



M 75.885
Liq. Mp -22.6°. Slowly dehydrogenates on hgt. at 150°.
Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 3872 (*synth*)
Phillips, W.D. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 4496 (*nmr*)
Verkade, J.G. *et al*, *Inorg. Chem.*, 1964, **3**, 884 (*pmr*)
Cowley, A.H. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 6815 (*nmr*)
Drake, J.E. *et al*, *J. Chem. Soc. (A)*, 1971, 2074 (*pmr, ir, raman*)
Rapp, B. *et al*, *Inorg. Chem.*, 1973, **12**, 2868 (*nmr*)

C₂H₁₀B₄Si**B-00140**

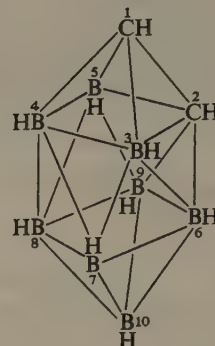
μ-Silyl-2,3-dicarbahehexaborane(8), 9Cl
[38999-41-6]



M 105.427

C₂H₁₀B₈**B-00141**

1,2-Dicarbadecaborane(10), 10Cl
[41655-27-0]



M 120.581
Cryst. Mp 182° (174°).
Rietz, R.R. *et al*, *J. Organomet. Chem.*, 1973, **63**, 1 (*nmr, synth*)
Plešek, J. *et al*, *Collect. Czech. Chem. Commun.*, 1974, **39**, 821 (*ms, synth*)

C₂H₁₀B₈**B-00142**

1,6-Dicarbadecaborane(10), 10Cl

[23704-81-6]
M 120.581
closo-. Cryst. Mp 146°. Dipole moment 2.22D.
Garrett, P.M. *et al*, *Inorg. Chem.*, 1969, **8**, 1907 (*synth, ir, nmr*)

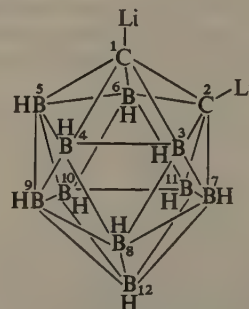
C₂H₁₀B₈**B-00143**

1,10-Dicarbadecaborane(10), 10Cl

[23653-23-8]
M 120.581
closo-. Cryst. Mp 162°.
Garrett, P.M. *et al*, *Inorg. Chem.*, 1969, **8**, 1907 (*synth, ir, nmr*)
Leites, L.A. *et al*, *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1975, 1866 (*ir, raman*)
Atavin, E.G. *et al*, *J. Mol. Struct.*, 1980, **65**, 259 (*ed*)

C₂H₁₀B₁₀Li₂**B-00144**

μ-1,2-Dicarbadodecaborane(12)-1,2-diyl dilithium, 10Cl
Dilithium-1,2-dicarbadodecaborate(2-). 1,2-Dilithio-1,2-dicarbadodecaborane(12)
[22220-85-5]



M 156.083

closo-. Precursor to many σ -substituted derivs. of 1,2-C₂B₁₀H₁₂.

Grafstein, D. *et al*, *Inorg. Chem.*, 1963, **2**, 1120 (*synth*)

Heying, T. *et al*, *Inorg. Chem.*, 1963, **2**, 1097 (*synth*)

C₂H₁₀B₁₀Li₂

B-00145

μ -1,7-Dicarbadodecaborane(12)-1,7-diyl dilithium, 10Cl

Dilithium-1,7-dicarbadodecaborate(2-). 1,7-Dilithio-1,7-dicarbadodecaborane(12)

[17217-89-9]

M 156.083

closo-. Precursor to many σ -substituted derivs. of 1,7-C₂B₁₀H₁₂. Sol. Et₂O, C₆H₆, THF.

Grafstein, D. *et al*, *Inorg. Chem.*, 1963, **2**, 1128.

Stanko, V. *et al*, *J. Gen. Chem., USSR (Engl. Transl.)*, 1971, **41**, 2053

C₂H₁₀B₁₀Li₂

B-00146

μ -1,12-Dicarbadodecaborane(12)-1,12-diyl dilithium, 10Cl

Dilithium-1,12-dicarbadodecaborate(2-). 1,12-Dilithio-1,12-dicarbadodecaborane(12)

[23087-97-0]

M 156.083

closo-. Precursor to many σ -substituted derivs. of 1,12-C₂B₁₀H₁₂. Sol. liq. NH₃.

Zakharkin, L. *et al*, *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1968, 2532 (*synth*)

Stanko, V. *et al*, *J. Gen. Chem. USSR (Engl. Transl.)*, 1971, **41**, 2053 (*synth*)

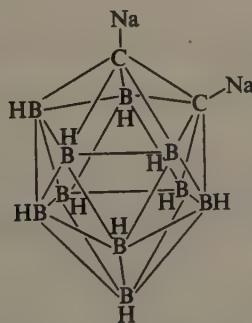
C₂H₁₀B₁₀Na₂

B-00147

μ -1,2-Dicarbadodecaborane(12)-1,2-diyl disodium, 10Cl

Disodium-1,2-dicarbadodecaborate(2-). 1,2-Disodio-1,2-dicarbadodecaborane(12)

[56310-81-7]



M 188.181

closo-. Precursor to many σ -substituted 1,2-C₂B₁₀H₁₂ derivs. Sol. Et₂O.

Zakharkin, L. *et al*, *Bull. Akad. Sci. USSR, Div. Chem. Sci.*, 1964, 546 (*synth*)

Zakharkin, L., *Tetrahedron Lett.*, 1964, 2255 (*synth*)

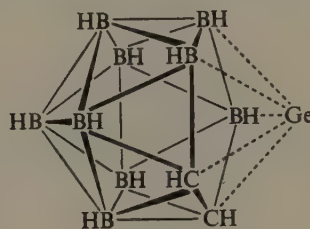
C₂H₁₁B₉Ge

B-00148

1,2-Dicarba-3-germadodecaborane, 8Cl

1-Germa-2,3-dicarba-closo-dodecacarborane

[27071-52-9]



M 204.989

White solid (C₆H₆). Sol. C₆H₆. Bp 80° subl. (*in vacuo*).

Dec. at 352°.

Rudolph, R.W. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 3351.

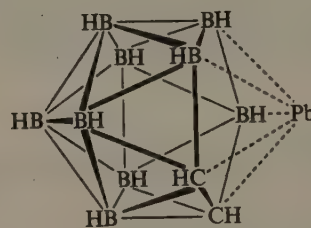
C₂H₁₁B₉Pb

B-00149

1,2-Dicarba-3-plumbadodecacarborane(11), 8Cl

1-Plumba-2,3-dicarba-closo-dodecacarborane

[27071-51-8]



M 339.599

Yellow solid (C₆H₆). Bp 250° subl. (*in vacuo*). Dec. at 250°.

Rudolph, R.W. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 3351.

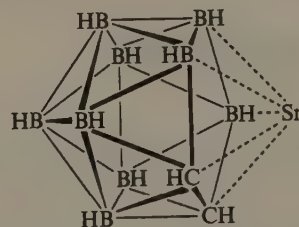
C₂H₁₁B₉Sn

B-00150

1,2-Dicarba-3-stannadodecaborane

1-Stanna-2,3-dicarbadodecacarborane

[23151-46-4]



M 251.089

White solid (C₆H₆). Sol. C₆H₆. Bp 140° subl. (*in vacuo*). Dec. at 210°.

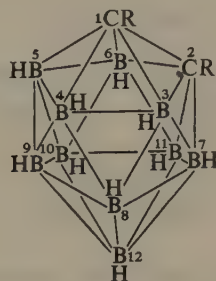
Rudolph, R.W. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 3351.

C₂H₁₂B₁₀

1,2-Dicarbadodecaborane(12), 10Cl

o-Carborane. o-Carbaborane

[16872-09-6]



R = H

M 144.217

closo-. Shows high temp. stability; forms many C- and B-substituted derivs. White solid (pentane). Sol. aromatic solvs. Mp 320° (evacuated sealed tube).

Schroeder, H. *et al*, *Inorg. Chem.*, 1963, **2**, 1092 (*ir*)Potenza, J. *et al*, *Inorg. Chem.*, 1964, **3**, 1673 (*cryst struct*)Schroeder, H. *et al*, *Inorg. Chem.*, 1966, **5**, 693 (*nmr*)*Inorg. Synth.*, 1967, **10**, 93; 1968, **11**, 19 (*synth*)Tupciauskas, V. *et al*, *Zh. Strukt. Khim.*, 1972, **13**, 823 (*pmr*)C₂H₁₂B₁₀

1,7-Dicarbadodecaborane(12), 10Cl

m-Carborane. m-Carbaborane. Neocarborane

[16986-24-6]

M 144.217

closo-. Highly temp. stable carborane unit which forms many stable derivs., used for polymer formation. White cryst. Mp 273°.

▷HS9290000.

Grafstein, D. *et al*, *Inorg. Chem.*, 1963, **2**, 1128 (*synth, ms*)Schroeder, H. *et al*, *Inorg. Chem.*, 1966, **5**, 693 (*nmr*)Beall, H. *et al*, *Inorg. Chem.*, 1967, **6**, 874 (*cryst struct*)Ditter, J. *et al*, *Inorg. Chem.*, 1970, **9**, 889 (*synth*)Tupciauskas, V. *et al*, *Zh. Strukt. Khim.*, 1972, **13**, 823 (*pmr*)C₂H₁₂B₁₀

1,12-Dicarbadodecaborane(12), 10Cl

p-Carborane. p-Carbaborane

[20644-12-6]

M 144.217

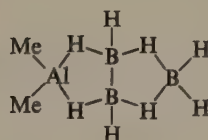
closo-. Highly temp. stable carborane unit which forms many stable derivs., used for polymer formation. White solid by subl. at 110°/0.1 mm. Mp 260°.

Papetti, S. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 2295 (*synth, nmr*)Schröder, H. *et al*, *Inorg. Chem.*, 1966, **5**, 693 (*nmr*)Tupciauskas, V. *et al*, *Zh. Strukt. Khim.*, 1972, **13**, 823 (*pmr*)C₂H₁₄AlB₃

Dimethyl[octahydrotriborato(1-)]aluminum

Dimethylaluminum octahydrotriborate(1-)

[12654-95-4]



M 97.544

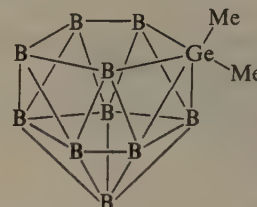
B-00151

Extremely sensitive to air and moisture. Thermally unstable, $t_{1/2} \sim 10$ min. at 20°/10-20 mm.

Borlin, J.-J. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 1367 (*synth, pmr, nmr*)Dain, C.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1981, 2465 (*synth, struct*)C₂H₁₈B₁₀Ge

7,7-Dimethyl-7-germaundecaborane(14), 9Cl

[34514-72-2]

12 H atoms
not shown

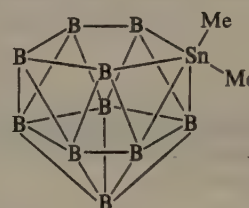
M 222.854

Proposed struct. shown. White solid. Mp 82-3°. Reasonably stable in air.

Loffredo, R.E. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5587 (*synth, pmr, nmr, ms*)C₂H₁₈B₁₀Sn

7,7-Dimethyl-7-stannaundecaborane(14), 9Cl

[34514-71-1]

12 H atoms
not shown

M 268.954

Proposed struct. shown. White solid. Mp 123-4°. Reasonably stable in air.

Loffredo, R.E. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5587 (*synth, pmr, nmr, ms*)C₂H₁₈B₁₀Tl⁺[η⁴-Dodecahydrodecaborato(2-)]dimethylthallate(1-), 9ClB₁₀H₁₂TlMe₂⁺

M 354.647 (ion)

Methyltriphenylphosphonium salt: [58776-50-4]. [η⁴-Dodecahydrodecaborato(2-)]dimethylmethyltriphenylphosphoniumthallate(1-), 9Cl.

C₂₁H₃₆B₁₀PTl M 631.972Yellow solid, cryst. (CH₂Cl₂, Et₂O).Greenwood, N.N. *et al*, *J. Chem. Soc., Dalton Trans.*, 1975, 299.

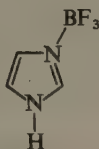
Having problems with locating a compound? Have you checked the indexes?

C₃H₄BF₃N₂

B-00158

Trifluoroborane imidazole

Trifluoro(1H-imidazole-N³)boron, 10Cl. BF₃-Imidazole.
1-H-Imidazole compd. with trifluoroborane
[69080-38-2]



M 135.883

Crosslinking catalyst for epoxy resins.

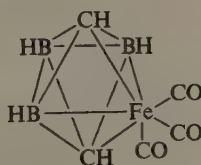
Japan. Pat., 78 114 900, (1978); CA, 90, 72868v (use)

Japan. Pat., 81 04 648, (1981); CA, 95, 8267z

C₃H₅B₃FeO₃

B-00159

Tricarbonyl[η⁴-pentahydrodicarbapentaborato(2-)]iron, 10Cl
(1,2,4-C₂B₃H₅)tricarbonyliron
[53363-10-3]



M 177.348

Orange liq.

Miller, V.R. et al, J. Am. Chem. Soc., 1974, 96, 3090 (synth, ms, ir, nmr, pmr)

Ulman, J.A. et al, J. Am. Chem. Soc., 1978, 100, 456 (pe)

C₃H₇B

B-00160

2-Propenylborane, 10Cl, 9Cl

Allylborane

[51531-21-6]



M 53.898

Presumably would form B-H bridged dimer in the uncomplexed state, but not isol. Synthetic intermed. generated *in situ*. Air- and moisture-sensitive; cannot be kept since it undergoes self-hydroboration.

Mikhailov, B.M., Intra-Sci. Chem. Rep., 1973, 7, 191 (rev)

Mikhailov, B.M., Usp. Khim., 1976, 45, 1102 (rev)

Pelter, A. et al, Compr. Org. Chem., (Barton, D.H.R. et al, Ed.), 1979, 3, 695 (rev)

Mikhailov, B.M., Sov. Sci. Rev., Sect. B, 1980, 2, 283 (rev)

Henriksen, U. et al, J. Org. Chem., 1981, 46, 3767.

C₃H₇BCl₂

B-00161

Dichloroisopropylborane

Dichloro(1-methylethyl)borane, 10Cl. Dichloroisopropylborane. Dichloro(2-propyl)borane
[7680-99-1]



M 124.804

Fuming liq., rapidly hydrol. by H₂O. Bp₇₄₉ 72°.

►Ignites in air

McCusker, P. et al, J. Am. Chem. Soc., 1957, 79, 5185 (synth, props)

Mikhailov, B.M. et al, Izv. Akad. Nauk SSSR, Ser. Khim., 1957, 1080 (synth)

Lynds, L. et al, J. Am. Chem. Soc., 1959, 81, 5006 (synth)

Gorbunov, A. et al, CA, 1966, 64, 16626g (chromatog)

Barlos, K. et al, Chem. Ber., 1977, 110, 2774 (nmr)

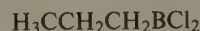
Bogatskii, A. et al, CA, 1981, 94, 121624f (props)

C₃H₇BCl₂

B-00162

Dichloropropylborane, 10Cl, 9Cl, 8Cl

Dichloropropylborane. Propyldichloroborane
[1739-52-2]



M 124.804

Strongly fuming liq., rapidly hydrol. in moist air. Sol. Et₂O. Bp₇₃₉ 78.2°.

►Ignites in air

McCusker, P.A. et al, J. Am. Chem. Soc., 1957, 79, 5182 (synth)

Mikhailov, B.M. et al, Izv. Akad. Nauk SSSR, Ser. Khim., 1957, 1080 (synth)

Gerrard, W. et al, J. Chem. Soc., 1964, 740 (synth)

Gorbunov, A.I. et al, Gaz. Kromatogr. Moscow, 1964, 35 (chromatog)

Köster, R. et al, Justus Liebig's Ann. Chem., 1969, 34 (use)

Costes, J.P. et al, J. Organomet. Chem., 1979, 175, 257 (use)

C₃H₇BF₂O

B-00163

Difluoropropoxyborane, 10Cl, 9Cl

[20957-79-3]



M 107.895

Catalyst for polymerisation reactions. Moisture-sensitive.

B.P., 2 030 993, (1980); CA, 93, P221317f (use)

Fr. Pat., 2 438 665, (1980); CA, 93, P240977n (use)

C₃H₈BClHgO₂

B-00164

(Chloromercurimethyl)dimethoxyboron

(Chloromercuri)(dimethoxyboryl)methane. [(Chloromercuri)methyl]borinic acid dimethyl ester



M 322.948

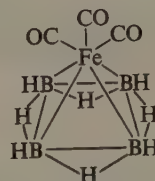
Cryst. (MeOH).

Matteson, D.S. et al, J. Organomet. Chem., 1973, 54, 35 (synth, pmr)

C₃H₈B₄FeO₃

B-00165

Tricarbonyl[(1,2,3,4-η)-tetraborane(8)]iron, 10Cl
[54748-47-9]



M 191.181

Orange liq. Mp ca. 5°.

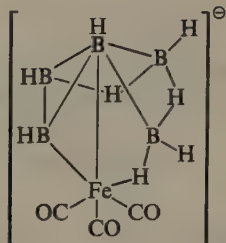
Greenwood, N.N. et al, J. Chem. Soc., Chem. Commun., 1974, 718 (synth, nmr, pmr, ms, ir)

Salahub, D.R., *J. Chem. Soc., Chem. Commun.*, 1978, 385 (pe)

C₃H₈B₅FeO₃[−]

B-00166

Tricarbonyl[(1,2,5-η)-octahydropentaborato(3-)-H²]fer-
rate(1-), 10Cl



M 201.991 (ion)

Tetrabutylammonium salt: [61491-75-6].

C₁₉H₄₄B₅FeNO₃ M 444.459

No phys. props. reported.

Fehlner, T.P. et al, *J. Am. Chem. Soc.*, 1976, **98**, 7085.

C₃H₉B

B-00167

Trimethylborane, 10Cl, 9Cl

Boron trimethyl. Trimethylborine

[593-90-8]

BMe₃

M 55.914

Gas. Mp −161.5°. Bp −20.2°. Forms addn. compd. with ammonia, Me₃BNH₃ (Mp 56°, Bp 110°).

► Highly toxic. Spontaneously flammable

Katal'nikov, S.G. et al, *CA*, 1962, **57**, 7678 (synth)

U.S.P., 3 329 485, (1967); *CA*, **67**, 108741 (synth)

Nöth, H. et al, *J. Organomet. Chem.*, 1968, **12**, 23 (pmr)

Casanova, J. et al, *Org. Prep. Proced.*, 1969, **1**, 57 (synth)

Nöth, H. et al, *Chem. Ber.*, 1974, **107**, 3089 (nmr)

Becher, H.J. et al, *Spectrochim. Acta, Part A*, 1977, **33**, 951 (ir, raman)

Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 429.

C₃H₉BBrN

B-00168

Bromo(dimethylamino)methylborane, 8Cl

1-Bromo-N,N,1-trimethylboranamine, 10Cl, 9Cl

[18494-96-7]

MeBBrNMe₂

M 149.825

Air- and moisture-sensitive liq. d₂₀ 1.21. Bp₂₂ 42°. n_D²⁰ 1.4602.

Nöth, H. et al, *Z. Anorg. Allg. Chem.*, 1963, **322**, 297; **324**, 270 (synth)

Nöth, H. et al, *J. Organomet. Chem.*, 1968, **12**, 23 (nmr, pmr)

Haubold, W. et al, *Z. Anorg. Allg. Chem.*, 1976, **421**, 105.

Paetzold, P. et al, *Chem. Ber.*, 1977, **110**, 3678; 1979, **112**, 663.

C₃H₉BBr₃N

B-00169

Tribromoborane trimethylamine

Tribromo(N,N-dimethylmethanamine)boron, 10Cl.

N,N-Dimethylmethanamine compd. with tribromoborane(1:1), 9Cl. Trimethylamine compd. with boron bromide(BBr₃)(1:1), 8Cl. Boron tribromide trimethylamine [1516-54-7]

Me₃N—BBr₃

M 309.633

White cryst. (EtOH or by subl.).

Benton-Jones, B. et al, *J. Chem. Soc., Dalton Trans.*, 1972, 2603 (nmr)

Van Paasschen, J.M. et al, *Synth. React. Inorg. Metal-Org. Chem.*, 1974, **4**, 11 (synth)

Myers, W.H. et al, *Inorg. Chem.*, 1975, **14**, 2874 (pmr)

Miller, J.M. et al, *Inorg. Chem.*, 1976, **15**, 284 (nmr)

Okuda, T. et al, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 307 (nqr, nmr, synth)

Iijima, K. et al, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1908 (struct)

C₃H₉BBr₃P

B-00170

Tribromoborane trimethylphosphine

Tribromo(trimethylphosphine)boron, 10Cl. Trimethylphosphine compd. with tribromoborane(1:1), 9Cl [13292-85-8]

Me₃P—BBr₃

M 326.600

Solid, dec. at 180°. Mp 255-6° (248°).

Black, D.L. et al, *Acta Crystallogr., Sect. B*, 1975, **31**, 1116 (struct)

Mente, D.C. et al, *Inorg. Chem.*, 1975, **14**, 1862 (nmr, ir, raman, ms)

Drake, J.E. et al, *Inorg. Chem.*, 1977, **16**, 2289 (ir, raman)

Sisler, H.H. et al, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1745 (pmr, synth)

Apel, J. et al, *Z. Anorg. Allg. Chem.*, 1979, **453**, 28.

Iijima, K. et al, *Bull. Chem. Soc. Jpn.*, 1981, **54**, 2255 (struct)

C₃H₉BCl₃N

B-00171

Trichloroborane trimethylamine

Trichloro(N,N-dimethylmethanamine)boron, 10Cl. N,N-Dimethylmethanamine compd. with trichloroborane(1:1), 9Cl. Trimethylamine compd. with boron chloride(BCl₃)(1:1), 8Cl. Boron trichloride trimethylamine [1516-55-8]

Me₃N—BCl₃

M 176.280

Cryst. (EtOH or by subl.).

Miller, J.M. et al, *J. Chem. Soc. (A)*, 1971, 346 (ms)

Benton-Jones, B. et al, *J. Chem. Soc., Dalton Trans.*, 1972, 2603 (nmr)

Myers, W.H. et al, *Inorg. Chem.*, 1975, **14**, 2874 (pmr)

Miller, J.M. et al, *Inorg. Chem.*, 1976, **15**, 284 (nmr)

Okuda, T. et al, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 307 (nqr, nmr, synth)

Iijima, K. et al, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1908 (struct)

C₃H₉BCl₃P

B-00172

Trichloroborane trimethylphosphine

Trichloro(trimethylphosphine)boron, 10Cl. Trimethylphosphine compd. with trichloroborane(1:1), 9Cl [13292-83-6]

Me₃P—BCl₃

M 193.247

Cryst. (C₆H₆), stable to heat and water. Mp 241-2°. Bp 275° subl.

Phillips, G.M. et al, *J. Chem. Soc.*, 1945, 146 (synth)

Black, D.L. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 1116 (struct)
 Mente, D.C. *et al*, *Inorg. Chem.*, 1975, **14**, 1862 (nmr, ms, ir, raman)
 Drake, J.E. *et al*, *Inorg. Chem.*, 1977, **16**, 2289 (ir, raman)
 Sisler, H.H. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1745 (pmr, synth)
 Symons, M.C.R. *et al*, *J. Chem. Res. (S)*, 1978, 122
 Apel, J. *et al*, *Z. Anorg. Allg. Chem.*, 1979, **453**, 28 (nmr)

C₃H₉BF₃N**B-00173****Trifluoroborane trimethylamine**

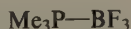
(N,N-Dimethylmethanamine)trifluoroboron, 10Cl. Trimethylamine compd. with boron fluoride (BF₃)(1:1), 8Cl. N,N-Dimethylmethanamine, compd. with trifluoroborane (1:1), 9Cl. Trimethylamine boron trifluoride [420-20-2]



M 126.916
 White cryst. solid. Mp 140-6°. Bp 238°.
 Brown, F., *J. Am. Chem. Soc.*, 1952, **74**, 1219 (synth)
 Clippard, P.H. *et al*, *J. Cryst. Mol. Struct.*, 1971, **1**, M363 (cryst struct)
 Miller, J.A. *et al*, *J. Chem. Soc. (A)*, 1971, 346 (ms)
 Van Paasschen, J.M. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2680 (synth)
 Geanangel, R.A., *Inorg. Chem.*, 1975, **14**, 696 (cmr, nmr)
 Myers, W.H. *et al*, *Inorg. Chem.*, 1975, **14**, 2874 (synth, pmr)
 Miller, J.M. *et al*, *Inorg. Chem.*, 1976, **15**, 284 (nmr)

C₃H₉BF₃P**B-00174****Trifluoroborane trimethylphosphine**

Trifluoro(trimethylphosphine)boron, 10Cl. Trimethylphosphine compd. with trifluoroborane (1:1), 9Cl. Trimethylphosphine compd. with BF₃(1:1) [420-21-3]



M 143.883
 Solid. Mp 139-42°.
 Heitsch, C.W., *Inorg. Chem.*, 1965, **4**, 1019 (nmr)
 Tuchagues, J.P. *et al*, *Bull. Soc. Chim. Fr.*, 1971, 4246.
 Markham, R.T. *et al*, *J. Inorg. Nucl. Chem.*, 1974, **36**, 503 (synth)
 Bula, M.J. *et al*, *Can. J. Chem.*, 1975, **53**, 326 (nmr)
 Van Paasschen, J.M. *et al*, *Inorg. Chem.*, 1978, **17**, 3302.
 Apel, J. *et al*, *Z. Anorg. Allg. Chem.*, 1979, **453**, 28 (nmr)

C₃H₉BI₃P**B-00175****Triiodoborane trimethylphosphine**

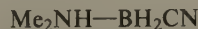
Triiodo(trimethylphosphine)boron, 10Cl. Trimethylphosphine compd. with triiodoborane, 9Cl. Trimethylphosphine triiodoborane [54215-81-5]



M 467.601
 Solid, turns light yellow at 125°. Mp 299-302°.
 Denniston, M.L. *et al*, *J. Inorg. Nucl. Chem.*, 1974, **36**, 1461 (nmr)
 Black, D.L. *et al*, *Acta Crystallogr., Sect. B*, 1975, **31**, 1116 (struct)
 Drake, J.E. *et al*, *Inorg. Chem.*, 1977, **16**, 2289 (ir, raman)
 Sisler, H.H. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1745 (synth, pmr, ir)
 Iijima, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1982, **55**, 255 (struct)

C₃H₉BN₂**B-00176****Cyanoborane dimethylamine**

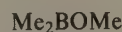
(Cyano-C)dihydro(N-methylmethanamine)boron, 10Cl. Boranecarbonitrile, compd. with N-methylmethanamine (1:1), 9Cl [51329-61-4]



M 83.928
 Shows a range of useful pharmacological props. White hygroscopic cryst. solid. Sol. Et₂O. Mp 46-8°, 54-5°.
 Weidig, C. *et al*, *Inorg. Chem.*, 1974, **13**, 1763 (synth, ir)
 Beachley, O.T. *et al*, *Inorg. Chem.*, 1975, **14**, 120 (pmr)
 Wisian-Nielsen, P. *et al*, *Inorg. Chem.*, 1978, **17**, 2327 (synth, pmr, ir)
 Hall, I.J. *et al*, *J. Pharm. Sci.*, 1979, **68**, 685; 1980, **69**, 1025; 1981, **70**, 339 (pharmacol)

C₃H₉BO**B-00177****Methoxydimethylborane**

Dimethylborinic acid methyl ester, 10Cl, 9Cl, 8Cl. Dimethyl(methoxy)boron [4443-43-0]



M 71.914
 Air- and moisture-sensitive liq. Bp 21°.

▷Pyrophoric

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 3872 (synth, props)
 Petry, R.C. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 6416 (synth)
 Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (nmr)
 Kroner, J. *et al*, *Z. Naturforsch., B*, 1973, **28**, 416 (pe)
 Berger, H.O. *et al*, *Chem. Ber.*, 1976, **109**, 2266 (props)
 Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (nmr)

C₃H₉BO₂**B-00178****Dihydroxypropylborane**

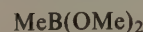
Propylboronic acid, 10Cl, 9Cl. 1-Propaneboronic acid, 8Cl. Propyldihydroxyborane [17745-45-8]



M 87.913
 Inhibits cholinesterase, lipase and proteinase. Cryst. solid with characteristic smell. V. sol. hot H₂O; less sol. cold H₂O. Mp 107° (105-6°). Sublimes.
 Long, L.H. *et al*, *J. Chem. Soc.*, 1953, 3902 (synth)
 Laurent, J.P., *C.R. Hebd. Seances Acad. Sci.*, 1961, **253**, 1812 (synth)
 Stibr, B. *et al*, *Collect. Czech. Chem. Commun.*, 1968, **33**, 976 (props)
 Jarv, J. *et al*, *Bioorg. Khim.*, 1978, **4**, 1364 (use)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1385 (synth)
 Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (synth)

C₃H₉BO₂**B-00179****Methylmethoxyborane**

Methylboronic acid dimethyl ester, 10Cl, 9Cl. Methaneboronic acid dimethyl ester, 8Cl. Dimethoxymethylborane [7318-81-2]



M 87.913

Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs.
Bp 53.5°.

Petry, R.C. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 6416 (*synth*)
 Goubeau, J. *et al*, *Z. Phys. Chem.*, 1959, **20**, 15 (*ir, raman*)
 Kroner, J. *et al*, *Z. Naturforsch.*, B, 1973, **28**, 416 (*pe*)
 McFarlane, W. *et al*, *Chem. Ber.*, 1975, **108**, 3831 (*nmr*)
 Goetze, R. *et al*, *Chem. Ber.*, 1981, **114**, 1884 (*nmr*)
 Gundersen, G. *et al*, *Acta Chem. Scand., Ser. A*, 1981, **35**, 325 (*struct*)

C₃H₉BO₃

B-00180

Trimethoxyborane

Boric acid (H₃BO₃) trimethyl ester, 10Cl, 9Cl, 8Cl. Methyl borate. Trimethyl borate. Trimethyl orthoborate
 [121-43-7]



M 103.912

Vulcanizing agent, insect sterilant, catalyst, gelling agent
 heat stabilizer, fire extinguisher for hydrogen fires;
 used in prepn. of reactive silica and in cotton smoulder-
 resistant treatment. Liq., fumes in air, moisture-
 sensitive. Sol. polar non-hydroxylic solvs. d₄²⁰ 0.920. Mp
 –29.3°. Bp 68-9°. ρ_{D}^{25} 1.3543, 1.3548. Forms
 azeotrope with MeOH, Bp 55°.

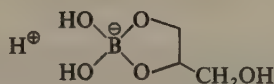
▷ Mod. toxic. Flammable. ED50 600000.

Webster, S.H. *et al*, *J. Am. Chem. Soc.*, 1933, **55**, 3233 (*synth*)
 Schlesinger, H.I. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 213 (*synth*,
props)
 Fletton, R.A. *et al*, *Analyst (London)*, 1971, **96**, 370 (*pmr*)
 Cragg, R.H. *et al*, *J. Chem. Soc., Dalton Trans.*, 1972, 1373
(ms)
 Kroner, J. *et al*, *Z. Naturforsch.*, B, 1973, **28**, 416 (*pe*)
 Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089 (*nmr*)
 Gundersen, G., *J. Mol. Struct.*, 1976, **33**, 79 (*struct*)
 Rogstad, A. *et al*, *J. Mol. Struct.*, 1976, **35**, 121 (*ir, raman*)
 Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th
 Ed., Van Nostrand-Reinhold, 1979, 810.

C₃H₉BO₅

B-00181

Hydrogen dihydroxy[1,2,3-propanetriolato(2-)-O¹,O²]bo-
 rate(1-), 10Cl
 [64466-24-6]



M 135.911

U.S.S.R. Pat., 566 824-5, (1977); CA, **87**, 151712f, 151713g
(props)

C₃H₉BS

B-00182

Dimethyl(methylthio)borane

Dimethylthioboronic acid methyl ester, 10Cl, 9Cl, 8Cl
 [19163-05-4]



M 87.974

Air- and moisture-sensitive liq., dec. over several months
 at 20°. Mp –84°. Bp 71°.

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 3307 (*synth*,
props)
 Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*nmr*)
 Vahrenkamp, H., *J. Organomet. Chem.*, 1971, **28**, 181 (*raman*,
ir)
 Kroner, J. *et al*, *Z. Naturforsch.*, B, 1973, **28**, 416 (*pe*)

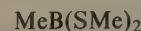
McFarlane, W. *et al*, *Chem. Ber.*, 1975, **108**, 3831 (*nmr*)
 Berger, H.O. *et al*, *Chem. Ber.*, 1976, **109**, 2266 (*props*)

C₃H₉BS₂

B-00183

Methylbis(methylthio)borane

Methyldithioboronic acid dimethyl ester, 10Cl, 9Cl. Di-
 thiomethaneboronic acid dimethyl ester, 8Cl.
 Bis(methanethio)methylborine
 [19163-08-7]



M 120.034

Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs.
 Mp –59°. Bp 155° (est.).

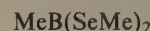
Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 1523 (*synth*)
 Vahrenkamp, H., *J. Organomet. Chem.*, 1971, **28**, 181 (*ir*,
raman)
 Kroner, J. *et al*, *Z. Naturforsch.*, B, 1973, **28**, 416 (*pe*)
 McFarlane, W. *et al*, *Chem. Ber.*, 1975, **108**, 3831 (*nmr*)
 Lindoey, S. *et al*, *Acta Chem. Scand., Ser. A*, 1976, **30**, 54
(struct)
 Goetze, R. *et al*, *Chem. Ber.*, 1981, **114**, 1884 (*nmr*)

C₃H₉BS₂e

B-00184

Methylbis(methylseleno)borane

Methyldiselenoboronic acid dimethyl ester, 10Cl, 9Cl
 [35450-18-1]



M 213.834

Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs.
 Bp₁₀ 63°.

Siebert, W. *et al*, *Chem. Ber.*, 1972, **105**, 454 (*synth*)
 McFarlane, W. *et al*, *Chem. Ber.*, 1975, **108**, 3831 (*nmr*)
 Fussstetter, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (*nmr*)

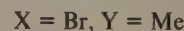
C₃H₉B₃Br₃N₃

B-00185

2,4,6-Tribromo-1,3,5-trimethylborazine, 10Cl, 9Cl, 8Cl

B-Tribromo-N-trimethylborazole
 [703-85-5]

As 2,4,6-Tribromoborazine, B-00015 with



M 359.266

Solid, sensitive to moisture. Mp 143-6°.

Emeléus, H.J. *et al*, *J. Chem. Soc.*, 1959, 1306 (*synth*)
 Riley, R.F. *et al*, *Inorg. Chem.*, 1964, **3**, 1651 (*props*)
 Anderson, G.A. *et al*, *Spectrochim. Acta, Part A*, 1970, **26**, 2013
(ir)
 Melcher, L.A. *et al*, *Inorg. Chem.*, 1973, **12**, 601 (*ms*)
 Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480.
 Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)

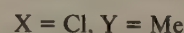
C₃H₉B₃Cl₃N₃

B-00186

2,4,6-Trichloro-1,3,5-trimethylborazine, 10Cl, 9Cl, 8Cl

B,B,B-Trichloro-N,N,N-trimethylborazole
 [703-86-6]

As 2,4,6-Tribromoborazine, B-00015 with



M 225.913

Curing agent for epoxy resins. Long white needles (pet.
 ether/C₆H₆). Sol. C₆H₆, Et₂O. Mp 153-6°, 162-3°.
 Bp_{0.1} 120-30° subl. Moisture-sensitive.

Hohnstedt, L.F. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 89 (*synth, props*)
 Butcher, I.M. *et al*, *Spectrochim. Acta*, 1962, **18**, 1487 (*ir, struct*)
 Butcher, I.M. *et al*, *J. Chem. Soc.*, 1964, 4528 (*pmr*)
Inorg. Synth., 1972, **13**, 43 (*synth, props, ir, nmr*)
 Kroner, J. *et al*, *Tetrahedron*, 1972, **28**, 1585 (*pe*)
 Melcher, L.A. *et al*, *Inorg. Chem.*, 1972, **11**, 1247; 1973, **12**, 601 (*ir, ms*)
 Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)
 Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)

C₃H₉B₃F₃N₃

B-00187

2,4,6-Trifluoro-1,3,5-trimethylborazine, 10Cl, 9Cl, 8Cl
 B,B,B-Trifluoro-N,N,N-trimethylborazole
 [13722-15-1]

As 2,4,6-Tribromoborazine, B-00015 with

X = F, Y = Me

M 176.549

Moisture-sensitive solid. Mp 90.5°. Bp₉ 70° subl.

Wiberg, E. *et al*, *Z. Naturforsch.*, B, 1951, **6**, 338 (*synth*)

Niedenzu, K., *Inorg. Chem.*, 1962, **1**, 943 (*synth*)

Anderson, G.A. *et al*, *Spectrochim. Acta, Part A*, 1970, **26**, 2013 (*synth, ir*)

Kroner, J. *et al*, *Tetrahedron*, 1972, **28**, 1585 (*pe*)

Miller, J.M. *et al*, *Inorg. Chem.*, 1974, **13**, 498 (*ms*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr, cmr*)

C₃H₉B₃O₃

B-00188

Trimethylboroxin, 10Cl, 9Cl, 8Cl

Trimethyltriborotrioxane

[823-96-1]

As Boroxin, B-00019 with

R = Me

M 125.532

Used in identification and separation of isomeric *cis-trans* diols. Moisture-sensitive liq., disproportionates at 200°. Mp –38°. Bp₇₄₅ 79–80°. *n*_D²⁰ 1.3638.

Lehmann, W.J. *et al*, *J. Inorg. Nucl. Chem.*, 1961, **21**, 25 (*ms*)

Rathke, M.W. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 2606 (*synth, nmr*)

Wester, D.W., *Org. Prep. Proced. Int.*, 1971, **3**, 191 (*synth*)

Barton, L. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1845 (*pmr, ms*)

McKean, D.C. *et al*, *Spectrochim. Acta, Part A*, 1977, **33**, 951 (*ir*)

Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (*nmr*)

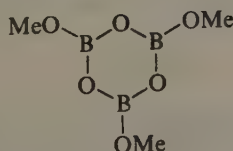
C₃H₉B₃O₆

B-00189

Trimethoxyboroxin, 9Cl

Trimethoxyboroxole

[102-24-9]



M 173.531

Cross-linking agent for epoxy resins. Moisture-sensitive liq. d 1.195. Mp 10°. Bp 130°.

▷ED8720000.

Goubeau, J. *et al*, *Z. Anorg. Allg. Chem.*, 1951, **267**, 1 (*synth*)

Nöth, H. *et al*, *NMR Spectroscopy of Boron Compounds (NMR Basic Principles and Progress, Part 14)*, 1978, Springer (*nmr*)
 Lin, S.C. *et al*, *J. Polym. Sci., Polym. Chem. Ed.*, 1979, **17**, 3095 (*use*)

Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (*nmr*)

C₃H₉B₃Si

B-00190

1-(Methylsilyl)-1,5-dicarbapentaborane(5), 9Cl

[55906-10-0]

1,5–C₂B₃H₄(SiH₂Me)

M 105.620

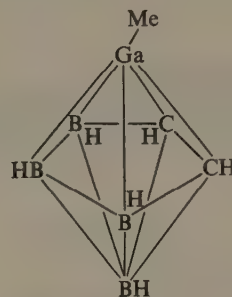
Leach, J.B. *et al*, *J. Chem. Soc., Dalton Trans.*, 1975, **11**, 1018 (*ir, nmr, ms, synth*)

C₃H₉B₄Ga

B-00191

[(2,3,4,5,6-η)-Hexahydro-2,3-dicarbahexaborato(2-)]methylgallium, 9Cl

[36550-13-7]



M 158.064

Colourless, sl. volatile cryst. slowly degraded by air. Stable to 100°.

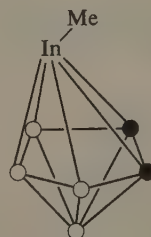
Grimes, R.N. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 1865 (*synth, cryst struct, ir, ms, nmr*)

C₃H₉B₄In

B-00192

[(2,3,4,5,6-η)-Hexahydro-2,3-dicarbahexaborato(2-)]methylindium, 9Cl

[36550-14-8]



● = CH

○ = BH

M 203.164

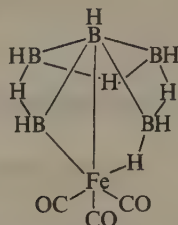
Colourless, slightly volatile cryst. by subl. Struct. by analogy with Ga analogue. Thermally stable to ~100°.

Grimes, R.N. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 1865 (*synth, ir, ms, pmr, nmr*)

C₃H₉B₅FeO₃

B-00193

Tricarbonyl[nonahydropentaborate(2-)]iron, 10Cl
[61403-41-6]



M 202.999

Fluxional. Deep-red mobile liq.

►Extremely pyrophoric

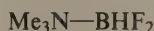
Fehlner, T.P. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 7085 (*synth*, *nmr*, *ms*, *pmr*, *cmr*)
Ulman, J.A. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 456 (*pe*)
Shore, S.G. *et al*, *Inorg. Chem.*, 1979, **18**, 670 (*synth*, *ms*, *pmr*, *cmr*, *nmr*)

C₃H₁₀BF₂N

B-00194

Difluoroborane trimethylamine

(N,N-Dimethylmethanamine)difluorohydroboron, 10Cl.
N,N-Dimethylmethanamine compd. with difluoroborane(1:1), 9Cl
[35237-72-0]



M 108.926

White solid. Mp 124-5°.

Mogeot, H. *et al*, *J. Inorg. Nucl. Chem.*, 1972, **34**, 825 (*ir*, *raman*)
Van Paasschen, J.M. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2680 (*synth*, *ir*, *nmr*, *pmr*)
Tuchagues, J.-P. *et al*, *J. Organomet. Chem.*, 1973, **54**, 69 (*ir*, *nmr*)
Geanangel, R.A., *Inorg. Chem.*, 1975, **14**, 696 (*nmr*)
Van Paasschen, J.M. *et al*, *J. Inorg. Nucl. Chem.*, 1976, **38**, 2321.
Van Paasschen, J.M. *et al*, *Inorg. Chem.*, 1978, **17**, 3302.

C₃H₁₀BN

B-00195

Dimethyl(methylamino)borane, 8Cl

N,1,1-Trimethylboranamine, 10Cl, 9Cl.
Dimethylaminomethylborine
[4023-40-9]



M 70.929

Air- and moisture-sensitive liq. Bp 38.3°.

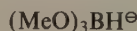
Wiberg, E. *et al*, *Z. Anorg. Chem.*, 1947, **255**, 141 (*synth*)
Becher, H.J. *et al*, *Z. Anorg. Allg. Chem.*, 1952, **268**, 133 (*ir*)
Nöth, H. *et al*, *Chem. Ber.*, 1967, **100**, 3353 (*synth*, *nmr*)
Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (*nmr*)
Almenningen, A. *et al*, *Acta Chem. Scand., Ser. A*, 1981, **35**, 341 (*struct*)
Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)

C₃H₁₀BO₃[⊖]

B-00196

Hydrotrimethoxyborate(1-), 10Cl, 9Cl, 8Cl

Trimethoxyhydroborate. Trimethoxyborohydride
[54787-85-8]



M 104.920 (ion)

Li salt: [39659-89-7].

C₃H₁₀BLiO₃ M 111.861

No phys. props. reported.

Na salt: [16940-17-3].

C₃H₁₀BNaO₃ M 127.910

Intermed. in methanolysis of NaBH₄. Selective reducing agent. Catalyst for manuf. of foamed polyamides. Used as sterilant for control of screw worm flies. Solid, stable in dry air. Sol. dioxan, isopropylamine, NH₃. Mp ca. 230° dec. Reacts with H₂O, alcohols.

K salt: [63637-24-1].

C₃H₁₀BKO₃ M 144.019

No phys. props. reported.

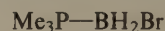
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 192 (*synth*)
Japan. Pat., 62 10 567, (1962); *CA*, **58**, 11545a (*use*)
Mikheeva, V.I. *et al*, *Zh. Neorg. Khim.*, 1967, **12**, 2019; *CA*, **67**, 121875f (*synth*)
Japan. Pat., 72 39 297, (1972); *CA*, **78**, 137304g (*use*)
Kadlec, V. *et al*, *Collect. Czech. Chem. Commun.*, 1974, **39**, 3200 (*synth*)
Mindl, J. *et al*, *Collect. Czech. Chem. Commun.*, 1976, **41**, 3314 (*use*, *props*)
Niehues, K.J., *CA*, 1980, **93**, 196748n (*rev*)

C₃H₁₁BBrP

B-00197

Bromoborane trimethylphosphine

Bromodihydro(trimethylphosphine)boron, 10Cl. Trimethylphosphine compd. with bromoborane, 9Cl
[60228-69-5]



M 168.808

Mp 61.0-62.5°. Erroneous coupling constants have been reported for this compd.

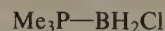
Dennison, M.L. *et al*, *J. Inorg. Nucl. Chem.*, 1976, **38**, 979 (*nmr*, *synth*)
Jugie, G. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 900 (*nmr*)
Sisler, H.H. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1745 (*ir*, *pmr*)
Schmidbaur, H. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1981, **20**, 283.

C₃H₁₁BClP

B-00198

Chloroborane trimethylphosphine

Chlorodihydro(trimethylphosphine)boron, 10Cl. Trimethylphosphine, compd. with chloroborane(1:1)
[64160-46-9]



M 124.357

Cryst. (Et₂O/pentane). Mp 73°.

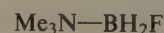
Jugie, G. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 900.
Sisler, H.H. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1745 (*synth*, *ir*, *pmr*)
Kodama, G. *et al*, *Inorg. Chem.*, 1979, **18**, 3302 (*synth*)
Kameda, M. *et al*, *Inorg. Chem.*, 1980, **19**, 2288 (*synth*, *nmr*)
Schmidbaur, H. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1981, **20**, 283 (*synth*, *ir*, *nmr*)

C₃H₁₁BFN

B-00199

Fluoroborane trimethylamine

(N,N-Dimethylmethanamine)fluorodihydroboron, 10Cl.
N,N-Dimethylmethanamine, compd. with fluoroborane(1:1), 9Cl. Trimethylamine monofluoroborane. Monofluoroborane trimethylamine
[35449-24-2]



M 90.935

Solid by subl. Mp 117-8°.

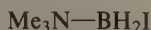
Van Paasschen, J.M. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2680
(*synth*, *pmr*, *nmr*, *ir*)Geanangel, R.A., *Inorg. Chem.*, 1975, **14**, 696 (*cmr*)Denniston, M.L. *et al*, *J. Inorg. Nucl. Chem.*, 1976, **38**, 979
(*nmr*)Weidig, C. *et al*, *Inorg. Chem.*, 1976, **15**, 1785.Cassoux, P. *et al*, *J. Mol. Struct.*, 1978, **48**, 25 (*struct*, *ir*)Van Paasschen, J.M. *et al*, *Inorg. Chem.*, 1978, **17**, 3302.**C₃H₁₁BIN****B-00200****Iodoborane trimethylamine**

(N,N-Dimethylmethanamine)dihydroiodoboron, 10Cl.

N,N-Dimethylmethanamine compd. with iodoborane(1:

1), 9Cl. Iodoborane compd. with trimethylamine(1:1), 8Cl

[25741-81-5]



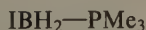
M 198.841

White cryst. solid (CCl₄/cyclohexane), moisture- and
light-sensitive. Sol. CCl₄, C₆H₆, insol. alkanes. Mp
73°. Subl. near Mp, moisture- and light-sensitive.

▷YH2720000.

Brown, M.P. *et al*, *J. Chem. Soc. (A)*, 1970, 410 (*ir*)Lowe, J.R. *et al*, *Inorg. Chem.*, 1970, **9**, 1423.*Inorg. Synth.*, 1970, **12**, 116 (*synth*)Bratt, P.J. *et al*, *Inorg. Chim. Acta*, 1974, **10**, 191 (*ir*)Myers, W.H. *et al*, *Inorg. Chem.*, 1975, **14**, 2874 (*pmr*)Denniston, M.L. *et al*, *J. Inorg. Nucl. Chem.*, 1976, **38**, 379
(*pmr*, *nmr*)**C₃H₁₁BIP****B-00201****Iodoborane trimethylphosphine**Dihydroiodo(trimethylphosphine)boron, 10Cl. Iodoborane
complex with trimethylphosphine, 9Cl. Trimethylphosphine
iodoborane

[60228-73-1]



M 215.808

Moisture-sensitive cryst. (CH₂Cl₂/pet. ether). Mp 69.5-
71°.Denniston, M.L. *et al*, *J. Inorg. Nucl. Chem.*, 1976, **38**, 979
(*synth*)Sisler, H.H. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1745 (*synth*,
nmr, *ir*)Pennington, B.T. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 389
(*synth*, *pmr*)**C₃H₁₁BN₂****B-00202****Methylbis(methylamino)borane, 8Cl**

N,N',I-Trimethylboranetriamine, 10Cl, 9Cl

[18029-12-4]



M 85.943

Liq., sensitive to air and moisture. Sol. Et₂O. Bp₂₀ 52°.Nöth, H. *et al*, *Chem. Ber.*, 1968, **101**, 969 (*synth*)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (*nmr*)Arne, A. *et al*, *Acta Chem. Scand., Ser. A*, 1981, **35**, 341
(*struct*)Goetze, R. *et al*, *Chem. Ber.*, 1981, **114**, 1884.**C₃H₁₂BN****B-00203****Borane trimethylamine**(N,N-Dimethylmethanamine)trihydroboron, 10Cl. N,N-
Dimethylmethanamine, compd. with borane(1:1). Tri-
methylamine borane

[75-22-9]



M 72.945

Commercially available. Source of borane for the
reduction of ketones and Schiff bases and for
hydroboration of alkenes. White cryst. solid. Stable,
easy to handle. Insol. hexane, v. sol. most org. solvs., sl.
sol. H₂O, cyclohexane. Mp 92-4°. Bp 172°.

▷PA0525000.

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1937, **59**, 780 (*synth*)Billman, J.H. *et al*, *J. Org. Chem.*, 1962, **27**, 2640 (*use*)Larsen, L.A. *et al*, *Inorg. Chem.*, 1974, **13**, 2284 (*ms*)Beachley, O.T. *et al*, *Inorg. Chem.*, 1975, **14**, 120 (*ir*, *pmr*)Cassoux, P. *et al*, *Inorg. Chem.*, 1975, **14**, 126 (*far ir*)Geanangel, R.A., *Inorg. Chem.*, 1975, **14**, 696 (*nmr*, *cmr*)**C₃H₁₂BN****B-00204****Trimethylborane ammonia**Amminetrimethylboron, 10Cl. Trimethylborane monoam-
moniate, 9Cl, 8Cl. Trimethylborane ammoniate. Ammonia
trimethylborane complex

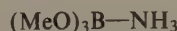
[1830-95-1]



M 72.945

Cryst. Mp 73-4°. Heat of dissociation = 13.8 kcal.
mol.⁻¹.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1944, **66**, 435 (*synth*,
props)Resing, H.A., *J. Chem. Phys.*, 1965, **63**, 669 (*nmr*)Sawodny, W. *et al*, *Z. Physik. Chem.*, 1965, **44**, 227 (*spectra*)Gol'dshtein, I.P. *et al*, *Zh. Obshch. Khim.*, 1968, **38**, 1984.Purser, J.M. *et al*, *Inorg. Chem.*, 1968, **7**, 2156 (*nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3070 (*nmr*)Pactzold, P. *et al*, *Chem. Ber.*, 1979, **112**, 654.**C₃H₁₂BNO₃****B-00205****Trimethoxyborane ammonia**Amminetrimethoxyboron, 10Cl. Boric acid trimethyl
ester, monoammoniate. Methyl borate ammonia
complex

[66794-43-2]



M 120.943

Solid. Mp 45° subl., 72°. Stable to at least 375°, does not
react. with NaOH.Goubeau, J. *et al*, *Z. Anorg. Allg. Chem.*, 1951, **266**, 161; **267**,
27 (*synth*)U.S.P., 2 629 732, (1953); *CA*, **47**, 7171iU.S.P., 4 196 177, (1980); *CA*, **93**, P49645y**C₃H₁₂BN₃****B-00206****Tris(methylamino)borane, 8Cl**

N,N',N''-Trimethylboranetriamine, 10Cl, 9Cl

[7397-44-6]



M 100.958

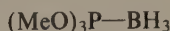
Liq., sensitive to moisture. Sol. nonpolar solvs. d₄²⁰ 0.887.
Bp₄₈ 70-80°. n_D²⁵ 1.4432.

Aubrey, D.W. *et al*, *J. Chem. Soc.*, 1959, 2927 (*synth, props*)
 English, W.D. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 2122 (*synth*)
 Davis, F.A. *et al*, *J. Org. Chem.*, 1971, **36**, 1300 (*nmr*)
 Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (*nmr*)
 Niedenzu, K. *et al*, *Z. Anorg. Allg. Chem.*, 1972, **387**, 107 (*nmr*)
 Beachley, O.T. *et al*, *Inorg. Chem.*, 1977, **16**, 2935 (*pmr, props*)
 Almennigen, A. *et al*, *Acta Chem. Scand., Ser. A*, 1981, **35**, 341 (*struct*)

C₃H₁₂BO₃P B-00207

Borane trimethyl phosphite

Trihydro(trimethyl phosphite-P)boron, 10Cl. Phosphorous acid trimethyl ester compd. with borane(1:1), 9Cl, 8Cl. Methyl phosphite compd. with borane
 [6867-39-6]



M 137.910

Liq. Bp₂₃ 86°. *n*_D²⁵ 1.4162.

Reetz, T., *J. Am. Chem. Soc.*, 1960, **82**, 5039 (*synth*)

McFarlane, H.C.E. *et al*, *J. Chem. Soc., Faraday Trans. 2*, 1972, **68**, 1300 (*nmr*)

Fussstetter, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (*nmr*)

Griend, V. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 2459 (*ir, nmr*)

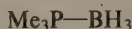
Hassler, K., *Ber. Bunsenges. Phys. Chem.*, 1980, **84**, 285 (*ir, raman*)

Cowley, A.H. *et al*, *Inorg. Chem.*, 1982, **21**, 85 (*pe*)

C₃H₁₂BP B-00208

Borane trimethylphosphine

Trihydro(trimethylphosphine)boron, 10Cl. Trimethylphosphine compd. with borane(1:1), 8Cl. Trimethylphosphine borine
 [1898-77-7]



M 89.912

Solid. Antiknock agent in petrol. Mp 103-103.5°.

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1953, **75**, 3872.

Sisler, H.H. *et al*, *J. Inorg. Nucl. Chem.*, 1977, **39**, 1745 (*ir*)

Van Paasschen, J.M. *et al*, *Inorg. Chem.*, 1978, **17**, 3302.

Apel, J. *et al*, *Z. Anorg. Allg. Chem.*, 1979, **453**, 28 (*nmr*)

Cowley, A.H. *et al*, *Inorg. Chem.*, 1982, **21**, 85 (*pe*)

Kameda, M. *et al*, *Inorg. Chem.*, 1982, **21**, 1267 (*nmr*)

C₃H₁₂B₃N₃ B-00209

1,3,5-Trimethylborazine, 10Cl, 9Cl, 8Cl

N,N,N-Trimethylborazole. Hexahydro-1,3,5-trimethyl-1,3,5-triazatriborine
 [1004-35-9]

As 2,4,6-Tribromoborazine, B-00015 with



M 122.578

Colourless liq. Mp -8.2° to -7.5°. Bp 131-3°, Bp₁₅ 28°. *n*_D²⁰ 1.4404, 1.4375.

Schaeffer, G.W. *et al*, *J. Am. Chem. Soc.*, 1949, **71**, 2143 (*synth*)

Hough, W.V. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 864 (*synth*)

Steinberg, H. *et al*, *Organoboron Chemistry*, Vol. 2, Wiley, 1966, 175 (*synth, props*)

Inorg. Synth., 1967, **9**, 8 (*synth*)

Kroner, J. *et al*, *Tetrahedron*, 1972, **28**, 1585 (*pe*)

Beaumelou, G. *et al*, *Org. Magn. Reson.*, 1973, **5**, 585 (*pmr*)

Melcher, L.A. *et al*, *Inorg. Chem.*, 1973, **12**, 601 (*ms*)

Blick, K.E. *et al*, *Z. Anorg. Allg. Chem.*, 1975, **417**, 19 (*ir, raman*)

Destefano, A. *et al*, *Inorg. Chem.*, 1975, **14**, 2882 (*deriv, props, ms*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr, cmr*)

C₃H₁₂B₃N₃

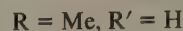
B-00210

2,4,6-Trimethylborazine, 10Cl, 9Cl, 8Cl

B,B,B-Trimethylborazole

[5314-85-2]

As Borazine, B-00020 with



M 122.578

Solid with unpleasant odour. Sol. most org. solvs. *d*₃₅ 0.84. Mp 29-31°. Bp 129°, Bp₂₀ 35°. V.p. 16.3 mm at 29.8°. Trouton constant 23.3 e.u. High thermal stability; v. slowly hydrol. by water.

Schlesinger, H.I. *et al*, *J. Am. Chem. Soc.*, 1936, **58**, 409 (*synth*)

Haworth, D.T. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 3860 (*ir, synth*)

Wagner, R.I. *et al*, *Inorg. Chem.*, 1962, **1**, 93 (*ir, synth*)

Anzenhofer, K., *Mol. Phys.*, 1966, **11**, 495 (*cryst struct*)

Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

Blick, K.E. *et al*, *Z. Anorg. Allg. Chem.*, 1978, **442**, 183 (*ir*)

Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)

C₃H₁₂B₃N₃O₃

B-00211

2,4,6-Trimethoxyborazine, 10Cl, 8Cl

Tri-B-methoxyborazole

[15185-53-2]

As 2,4,6-Tribromoborazine, B-00015 with



M 170.576

Moisture-sensitive solid. Mp 110-2° (102-5°). Bp 60° subl. *in vacuo*.

Haworth, D.T. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 842 (*synth, props*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1961, 371.

Meller, A. *et al*, *Monatsh. Chem.*, 1967, 390 (*ir*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

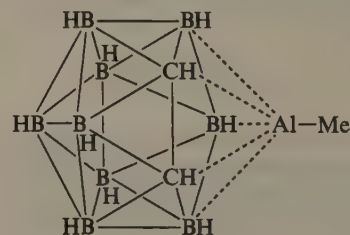
Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (*nmr*)

C₃H₁₄AlB₉^{⊖⊖}

B-00212

Methyl(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)aluminum

3-Methyl-3-alumino-1,2-dicarbaundecaborane(12)
 [34540-16-4]



M 174.415 (ion)

White cryst. Mp 97-100°. Bp_{0.01} 90° subl.

Explodes with water

Young, D.A.T. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5687 (synth, *ir*, *pmr*, *nmr*)

C₃H₁₆B₅ClSi

B-00213

2-[(Chlorodimethylsilyl)methyl]pentaborane(9), 10Cl
[63838-59-5]



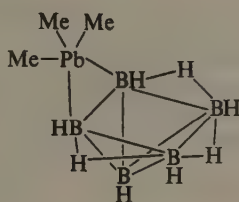
M 169.748

Leach, J.B. *et al*, *J. Chem. Soc., Dalton Trans.*, 1977, 819 (*nmr*, *ms*, *synth*)

C₃H₁₇B₅Pb

B-00214

2,3- μ -(Trimethylplumbyl)pentaborane(9), 8Cl
[22142-47-8]



M 314.417

Presumed struct. Unstable liq. Mp -5° dec.

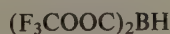
Gaines, D.F. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 6617.

C₄HBf₆O₄

B-00215

Bis(trifluoroacetoxy)borane

Trifluoroacetic acid dianhydride with boronic acid, 10Cl
[67177-55-3]



M 237.850

Formed as THF complex (1:1) and normally used *in situ*.

Acid-stable reducing agent.

Maryanoff, B.E. *et al*, *J. Org. Chem.*, 1978, **43**, 2733 (*synth*, *use*)

U.S.P., 4 210 590, (1980); *CA*, **93**, 204454f (*use*)

Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, **8**, 45 (*use*)

C₄H₄BCl₂F₂O₄[⊖]

B-00216

Bis(chloroacetato-O)difluoroborate(1-), 10Cl



M 235.786 (ion)

Dihydrogen fluoride salt: [63399-62-2]. Bis(chloroacetato-O)difluoroborate(1-)hydrogen fluoride(1:2:1), 10Cl. Chloroacetic acid compd. with trifluoroborane.

C₄H₆BCl₂F₃O₄ M 256.800

Highly active cat. for carbonylation of alcohols and alkenes. Stable, moisture-sensitive liq. d_4^{20} 1.585. Bp $53-4^\circ$.

Pirozhkov, S.D. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 1314, 1534; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **25**, 1264, 1459 (*synth*, *props*, *use*)

Pirozhkov, S.D. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 817; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 744.

Pirozhkov, S.D. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 110; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 96.

C₄H₅B

B-00217

Borole, 10Cl, 9Cl

1-H-Borole

[287-87-6]



M 63.894

Parent member of the borole series of organoboron compds., but not known in the free state. See Pentaphenylborole, B-01343.

Eisch, J.J., *CA*, 1973, **78**, 96987m.

Allinger, N.L. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 752.

Van der Kerk, S.M., *J. Organomet. Chem.*, 1981, **215**, 315.

C₄H₅BO₃

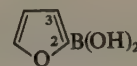
B-00218

2-Furanyldihydroxyborane

(2-Furanyl)boronic acid, 10Cl, 9Cl. 2-Furanboronic acid.

2-Furyldihydroxyborane

[13331-23-2]



M 111.892

Sludge inhibitor for fuels. Cryst. (H₂O). Mp 110° dec.

B.P., 1 031 533, (1966); *CA*, **65**, 10404a

Breuer, S.W. *et al*, *Tetrahedron Lett.*, 1974, 3719.

Roques, B.P. *et al*, *J. Heterocycl. Chem.*, 1975, **12**, 195.

Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1999 (*synth*)

Florentin, D. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1265.

C₄H₅BO₃

B-00219

3-Furanyldihydroxyborane

(3-Furanyl)boronic acid, 10Cl, 9Cl. 3-Furyldihydroxyborane. 3-Furanboronic acid

[55552-70-0]

M 111.892

Cryst. (H₂O). Mp $126-8^\circ$.

Roques, B.P. *et al*, *J. Heterocycl. Chem.*, 1975, **12**, 195.

Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1999 (*synth*)

Florentin, D. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1265.

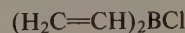
C₄H₆BCl

B-00220

Chlorodivinylborane

Chlorodiethenylborane, 10Cl, 9Cl. Chlorodivinylborine

[10147-89-4]



M 100.354

Liq.; under N₂ undergoes slow dec. at 20° ; sensitive to air and moisture. Mp -109.6° . Bp 71.1° . Trouton constant $22.9 \text{ eu } \Delta H_{\text{vap}} 7.88 \text{ Kcal mol}^{-1}$.

Coyle, T.D. *et al*, *J. Chem. Soc.*, 1961, 3108 (*ir*)

Brinckman, F.E. *et al*, *J. Am. Chem. Soc.*, 1962, **82**, 6218 (*synth*, *props*)

Good, C.D. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 1162 (*synth*)

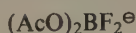
Hall, L.W. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 4527 (*nmr*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*nmr*)

Odom, J.D. *et al*, *J. Organomet. Chem.*, 1980, **201**, 351 (*props*)

C₄H₆BF₂O₄[⊖]

Bis(acetato-*O*)difluoroborate(1-), 10Cl
Diacetoxydifluoroborate



M 166.896 (ion)

Dihydrogen fluoride salt: [373-61-5]. Acetic acid compd. with trifluoroborane(2:1), 9Cl.

C₄H₈BF₃O₄ M 187.910

Highly active cat. for carbonylation of alcohols and alkenes. Moisture-sensitive liq. d₄²⁰ 1.366.

Muetterties, E.L., *J. Am. Chem. Soc.*, 1958, **80**, 4526 (synth)

Taillandier, M. et al, *J. Mol. Struct.*, 1971, **10**, 471 (struct, ir)

Pirozhkov, S.D. et al, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976,

1314, 1534; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **25**,

1264, 1459 (synth, props, use)

Pirozhkov, S.D. et al, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977,

817; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 744.

Pirozhkov, S.D. et al, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978,

110; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 96.

C₄H₆BF₃N₂

B-00222

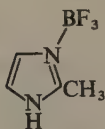
Trifluoroborane 2-methylimidazole

Trifluoro(2-methyl-1H-imidazole-N³)boron, 10Cl. 2-

Methyl-1H-imidazole compd. with trifluoroborane.

Boron trifluoride 2-methylimidazole

[69080-35-9]



M 149.910

Crosslinking catalyst for epoxy resins.

Japan. Pat., 78 114 900, (1978); *CA*, **90**, 72868v (use)

Japan. Pat., 80 25 474, (1980); *CA*, **93**, 48074z

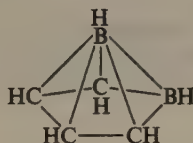
Japan. Pat., 80 142 023, (1980); *CA*, **94**, 140669r

C₄H₆B₂

B-00223

2,3,4,5-Tetracarbahexaborane(6), 10Cl

[28323-17-3]



M 75.711

nido-. Isoelectronic with B₆H₁₀ without any bridge H atoms. Liq. (by dist. in vacuo).

Groszek, E. et al, *Inorg. Chem.*, 1971, **10**, 2770 (synth, ir, ms, nmr)

Miller, V.R. et al, *Inorg. Chem.*, 1972, **11**, 862 (synth)

Pasinski, J.P. et al, *J. Chem. Soc., Chem. Commun.*, 1973, 928 (microwave)

C₄H₇B

B-00224

Bicyclo[1.1.0]but-1-ylborane, 10Cl

[69804-77-9]



M 65.909

Uncomplexed material would exist as a bridged dimer.

Air- and moisture-sensitive.

Greenberg, A., *Tetrahedron Lett.*, 1978, **38**, 3509 (synth)

Dill, J.D. et al, *J. Am. Chem. Soc.*, 1979, **101**, 6814.

C₄H₇BO₂

B-00225

Ethynylldimethoxyborane

Ethynylboronic acid dimethyl ester, 10Cl. Ethyneboronic acid dimethyl ester, 8Cl. Dimethyl ethynylboronate

[13722-62-8]



M 97.908

Mobile liq., air- and moisture-sensitive, v. volatile. Bp₂₆₂ 59-60°.

B.P., 884 547, (1961); *CA*, **57**, 7308f (synth)

Soulié, J. et al, *Bull. Soc. Chim. Fr.*, 1966, 3846 (synth, ir, uv)

Wrackmeyer, B. et al, *Chem. Ber.*, 1977, **110**, 1086 (nmr)

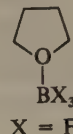
C₄H₈BF₃O

B-00226

Trifluoroborane tetrahydrofuran

Trifluoro(tetrahydrofuran)boron, 10Cl. Tetrahydrofuran compd. with trifluoroborane(1:1), 9Cl. Tetrahydrofuran compd. with boron fluoride (BF₃)(1:1), 8Cl

[462-34-0]



M 139.912

Catalyst. Moisture-sensitive white solid or colourless liq.

Mp 12°.

McLaughlin, D.E. et al, *J. Am. Chem. Soc.*, 1960, **82**, 5621 (pmr)

Begun, G.M. et al, *J. Chem. Phys.*, 1963, **38**, 2112 (raman, ir)

Fratiello, A. et al, *Inorg. Chem.*, 1969, **8**, 480 (pmr)

Krysin, A.P. et al, *Izv. Sib. Otd. Akad. Nauk SSSR, Ser. Khim. Nauk*, 1977, 151.

Grinevich, T.V. et al, *Vysokomol. Soedin., Ser. A*, 1980, **22**, 1576 (use)

Hui, B.C., *Inorg. Chem.*, 1980, **19**, 3185 (use)

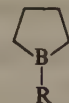
C₄H₉B

B-00227

Borolane, 10Cl, 9Cl, 8Cl

Tetrahydroborole. Boracyclopentane

[1692-31-5]



R = H

M 67.925

Unknown. The compd. previously thought to be the bridged dimer of borolane is 1,6-Diboracyclodecane, B-00566.

Köster, R. et al, *Angew. Chem., Int. Ed. Engl.*, 1963, **2**, 219.

Breuer, E. et al, *J. Am. Chem. Soc.*, 1969, **91**, 4164 (struct)

Brown, H.C. et al, *J. Am. Chem. Soc.*, 1971, **93**, 6682.

Inorg. Synth., 1979, **19**, 239 (synth, struct, ir, nmr)

C₄H₉BBr₂

B-00228

Dibromobutylborane, 9Cl

Butylboron dibromide. Butyldibromoborane

[1001-49-6]



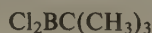
M 227.733

Unstable liq., air- and moisture-sensitive. Bp₂₃ 65°, Bp_{0.11} 49-50°.Gerrard, W. *et al*, *J. Chem. Soc.*, 1955, 1470; 3084 (*synth*)Schmidt, M. *et al*, *Z. Naturforsch., B*, 1970, **25**, 1344 (*synth*)C₄H₉BCl₂

B-00229

tert-Butyldichloroborane*Dichloro(1,1-dimethylethyl)borane*, 10Cl

[76873-78-4]



M 138.831

Air- and moisture-sensitive.

Bogatskii, A.V. *et al*, *CA*, 1981, **94**, 121624f (*props*)C₄H₉BCl₂

B-00230

Butyldichloroborane, 10Cl, 9Cl

Butylboron dichloride. Dichloro(butyl)borane

[14090-22-3]



M 138.831

Liq., sensitive to air and moisture. Bp 106-8°.

▷Pyrophoric

McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5192 (*synth*)*Inorg. Synth.*, 1967, **10**, 126 (*synth*)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1972, **44**, 233 (*synth*)Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)Leleu, J., *Cah. Notes Doc.*, 1977, **88**, 361 (*hazs, rev*)C₄H₉BF₂

B-00231

Butyldifluoroborane, 10Cl, 9Cl

Butyldifluoroborine

[372-53-2]



M 105.922

Catalyst for polymerisation of vinyl compds. Fuming liq., sensitive to air and moisture. d₂₀ 0.851. Bp₇₄₂ 36.3-36.5°. n_D¹⁹ 1.3300. Lewis acid.McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 4253 (*synth*)Brindley, P.B. *et al*, *J. Chem. Soc.*, 1956, 824 (*synth*)Buls, V.W. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 337 (*synth*)Coyle, T.D. *et al*, *J. Chem. Soc.*, 1961, 3103 (*nmr, ir, uv*)Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)Costes, J.P. *et al*, *J. Organomet. Chem.*, 1979, **175**, 257 (*props*)C₄H₉BF₂O

B-00232

Butoxydifluoroborane, 10Cl, 9Cl, 8Cl

Butoxydifluoroborine

[372-84-9]

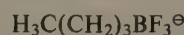


M 121.921

Exists as dimer and trimer. Fuming liq., sensitive to moisture. d₂₀ 1.122. Bp₁₁ 43°. n_D²² 1.3858. Lewis acid.Lappert, M.F., *J. Chem. Soc.*, 1955, 784 (*synth*)Brindley, P.B. *et al*, *J. Chem. Soc.*, 1956, 824 (*synth, props*)Gerrard, W. *et al*, *J. Chem. Soc.*, 1957, 381 (*synth*)Lappert, M.F. *et al*, *J. Chem. Soc.*, 1958, 3256.Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (*nmr*)Gerrard, W. *et al*, *J. Inorg. Nucl. Chem.*, 1967, **29**, 943 (*synth, ir, nmr, ms, props*)B.P., 2 030 993, (1980); *CA*, **93**, 221317 (*props*)C₄H₉BF₃[−]

B-00233

Butyltrifluoroborate(1−), 10Cl



M 124.920 (ion)

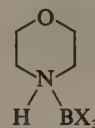
Cu(I) salt: [65139-99-3].C₄H₉BCuF₃ M 188.466Representative of intermeds. produced in BF₃-mediated reacns. of Cu(I) alkyls.Maruyama, K. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 8068 (*props*)Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 3240; 1980, **102**, 2318 (*props*)C₄H₉BF₃NO

B-00234

Trifluoroborane morpholine

Trifluoro(morpholine-N⁴)boron, 10Cl. *Morpholine, compd. with trifluoroborane(1:1)*, 9Cl

[660-92-4]



X = F

M 154.926

Pisarev, M.A. *et al*, *CA*, 1973, **79**, 89955s.Kugai, N. *et al*, *Adv. Exp. Med. Biol.*, 1977, **103**, 537.Syutkin, E.A. *et al*, *Probl. Endokrinol.*, 1980, **26**, 53.C₄H₁₀BBr

B-00235

Bromodiethylborane, 10Cl, 9Cl, 8Cl

Bromodiethylborine. Diethylbromoborane

[19162-10-8]



M 148.837

Air- and moisture-sensitive. Sol. THF.

Wiberg, E. *et al*, *Z. Anorg. Allg. Chem.*, 1933, **213**, 77 (*synth*)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **719**, 169 (*synth*)Nöth, H. *et al*, *Synth. React. Inorg. Metal-Org. Chem.*, 1971, **1197** (*synth*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **420**, 251 (*synth, ir*)Paetzold, P. *et al*, *Chem. Ber.*, 1979, **112**, 663.C₄H₁₀BBr₂N

B-00236

Dibromo(diethylamino)borane, 8Cl

1,1-Dibromo-N,N-diethylboranamine, 10Cl, 9Cl

[868-29-1]



M 242.748

Moisture-sensitive liq. d₄¹² 1.608. Bp₅ 90°. n₄¹⁸ 1.4946.

Wolfgang, B. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (*nmr*)
 Spitsyn, V.I. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974, 2626; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2535 (*synth*)
 Bryukhova, E.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 1614; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1529 (*nmr*)
 Balabanova, E.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2638; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2360 (*nmr*)
 Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)
 Nöth, H. *et al*, *Inorg. Chem.*, 1982, **21**, 706.

C₄H₁₀BCl**B-00237****Chlorodiethylborane, 10Cl, 9Cl**

Chlorodiethylborine. Diethylchloroborane
 [5314-83-0]



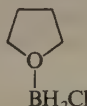
M 104.386

Catalyst for polymerisation of alkenes and butadiene oligomerisation. Liq., sensitive to air and moisture. Bp₁₀₀ 25°°.

Buls, V.W. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 337 (*synth*)
 Gipstein, E. *et al*, *J. Org. Chem.*, 1966, **31**, 1087 (*synth*)
 Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (*nmr*)
 Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*nmr*)
 Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **719**, 187 (*props*)
 Nöth, H. *et al*, *Synth. React. Inorg. Metal-Org. Chem.*, 1971, **1**, 197 (*synth*)
 Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)
 Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 491.

C₄H₁₀BClO**B-00238****Chloroborane tetrahydrofuran**

Chlorodihydro(tetrahydrofuran)boron, 10Cl. Chloroborane compd. with tetrahydrofuran(1:1), 9Cl
 [55606-72-9]



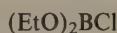
M 120.385

Not likely to be a v. stable material and certainly moisture sensitive.

Kodama, G. *et al*, *Inorg. Chem.*, 1975, **14**, 2243.
 Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1785 (*synth, nmr*)
 Drummond, A. *et al*, *Inorg. Chim. Acta*, 1977, **24**, 191.
 Dodds, A.R. *et al*, *Inorg. Chem.*, 1979, **18**, 1465.

C₄H₁₀BClO₂**B-00239****Chlorodiethoxyborane, 10Cl, 9Cl**

Chlorodiethoxyborine
 [20905-32-2]



M 136.385

Catalyst for polymerisation of alkenes. Liq. Easily hydrolysed by moisture. d₄²⁰ 0.972. Bp₆₀ 45.5-46°. n_D²⁰ 1.3878.

Kinney, C.R. *et al*, *J. Am. Chem. Soc.*, 1935, **57**, 2396 (*props*)
 Skinner, H.A. *et al*, *J. Chem. Soc.*, 1954, 3930 (*synth, props*)
 Abel, E.W. *et al*, *J. Chem. Soc.*, 1957, 501 (*synth*)
 Onak, T.P. *et al*, *J. Phys. Chem.*, 1959, **63**, 1533 (*nmr*)
 Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **719**, 169 (*synth*)

Ger. Pat., 2 951 673, (1980); *CA*, **93**, 240269h (*use*)

C₄H₁₀BCl₂N**B-00240****Dichloro(diethylamino)borane, 8Cl**

1,1-Dichloro-N,N-diethylboranamine, 10Cl, 9Cl. Dichloro(diethylamino)borine. Diethylaminodichloroborane
 [868-30-4]



M 153.846

Moisture-sensitive liq. Bp 140-6°, Bp₂₀ 51-2°.

Py complex (1:3): [15590-32-6].

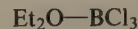
C₁₉H₂₅BCl₂N₄ M 391.149

White cryst. solid. Mp 82-6°. Hydrolyses readily in atm.

Lappert, M.F. *et al*, *J. Chem. Soc. (A)*, 1967, 602 (*synth*)
 Greenwood, N.N. *et al*, *J. Chem. Soc. (A)*, 1967, 959 (*ir, synth*)
 Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (*nmr*)
 Lochmueller, C.H. *et al*, *J. Chromatogr.*, 1973, **85**, 132 (*chromatog*)
 Baudler, M. *et al*, *Z. Anorg. Allg. Chem.*, 1981, **474**, 18 (*synth*)
 Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*cmr, nmr*)

C₄H₁₀BCl₃O**B-00241****Trichloroborane diethyl ether**

Trichloro[1,1'-oxybis[ethane]]boron, 10Cl. Ethyl ether compd. with boron chloride(BCl₃)(1:1), 8Cl. Boron tri-chloride etherate
 [2102-03-6]



M 191.291

Used in catalysts for manufacture of butadiene copolymer. Moisture-sensitive.

Schuster, R.E. *et al*, *J. Chem. Soc., Chem. Commun.*, 1967, 1038 (*pmr*)
 Fratiello, A. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 1194 (*nmr*)
Ger. Pat., 2 023 405, (1970); *CA*, **74**, 54901r (*use*)
 Smith, J.A. *et al*, *J. Chem. Soc. (A)*, 1971, 178 (*nqr*)
U.S.S.R. Pat., 621 802, (1978); *CA*, **90**, 42899p
 Hu, M.G. *et al*, *Inorg. Chem.*, 1979, **18**, 3297.

C₄H₁₀BF₂N**B-00242****(Diethylamino)difluoroborane, 8Cl**

N,N-Diethyl-1,1-difluoroboranamine, 10Cl, 9Cl. (Diethylamino)difluoroborine. Diethylaminoboron difluoride
 [392-73-4]



M 120.937

Cryst., dec. quickly in air. Mp 65.5°. Bp 92-92.5°. Subl. at 30-5° in *vacuo*.

Dimer: [7416-85-5].

C₈H₂₀B₂F₄N₂ M 241.873

Characterized spectroscopically.

Gerrard, W. *et al*, *J. Chem. Soc.*, 1957, 381 (*synth*)
 Spitsyn, V.I. *et al*, *Vestn. Mosk. Univ. Ser. 2: Khim*, 1966, **21**, 46; *CA*, **66**, 11184b (*polymers*)
 Greenwood, N.N. *et al*, *J. Chem. Soc. (A)*, 1967, 959 (*synth, ir, pmr, nmr*)
 Spitsyn, V.I. *et al*, *Zh. Neorg. Khim.*, 1967, **12**, 1158 (*ir*)
 Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)
 Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)

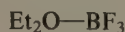
C₄H₁₀BF₃O

B-00243

EtBMe₂

Trifluoroborane diethyl ether

Trifluoro[1,1'-oxybis[ethane]]boron, 10Cl. 1,1'-Oxybis[ethane] compd. with trifluoroborane (1:1), 9Cl. Ethyl ether compd. with boron fluoride (BF₃) (1:1), 8Cl. Trifluoroborane etherate. Boron trifluoride etherate [109-63-7]



M 141.928

V. important catalyst for many types of reactions. Lewis acid. Comly. available. Moisture-sensitive liq. d₂₅²⁵ 1.125. Bp 126°. n_D²⁵ 1.348. Dipole moment 7.7D.

▷Corrosive. KX7375000.

Friatiello, A. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 1194 (nmr, pmr)

Friatiello, A. *et al*, *Inorg. Chem.*, 1969, **8**, 480 (nmr)

Topchii, V.A. *et al*, *Zh. Obshch. Khim.*, 1969, **39**, 2689.

Voloshchuk, A.M. *et al*, *Kernenergie*, 1974, **17**, 121 (ir)

Sugawara, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 3391 (nmr)

Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, **1**, 70 (use)

C₄H₁₀BIO₂

B-00244

Dihydroxy(4-iodobutyl)borane

(4-Iodobutyl)boronic acid, 10Cl. 4-Iodobutaneboronic acid

[71081-49-7]



M 227.836

Used in trace analysis of physiological fluids and for analysis of bifunctional compds. Cryst. (MeOH aq.). Mp 96-9°.

Poole, C.F. *et al*, *Analyst. (London)*, 1979, **104**, 82 (use, ms, ir, synth)

Poole, C.F. *et al*, *J. Chromatogr.*, 1979, **186**, 307 (use)

C₄H₁₁B

B-00245

Diethylborane, 10Cl, 9Cl

Diethylborine

[5518-25-2]



M 69.941

Bridged dimer in uncomplexed state. Prepd. *in situ* from 2-(hydroxyphenoxy)diethylborane and aluminum hydride in THF. Air- and moisture-sensitive. Sol. THF. n_D²⁰ 1.5065. Readily disproportionates to EtBH₂ and Et₃B on standing.

▷Probably pyrophoric

Köster, R. *et al*, *Angew. Chem.*, 1964, **76**, 649 (use)

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1975, 1339 (use)

Wolfgang, F. *et al*, *Justus Liebigs Ann. Chem.*, 1975, 2201 (use)

Gupta, S.K., *J. Organomet. Chem.*, 1978, **156**, 95 (synth)

Midland, M.M. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 248 (use)

Dahlhoff, W.V. *et al*, *Angew. Chem.*, 1980, **92**, 552 (use)

C₄H₁₁B

B-00246

Ethyl dimethylborane, 10Cl, 9Cl

Dimethylethylborane. Ethyl dimethylborine

[1113-22-0]

M 69.941

Prepd. from ethylene and H₂B₂Me₄. Originally thought to be highly unstable towards disproportionation into Me₃B, Et₃B etc. but shown not to be so. V. volatile liq. highly sensitive to air. Sol. THF. Mp -160°. Bp 25.5°. ΔH_{vap} 5.86 Kcal/mol.⁻¹ Trouton const. 19.6 e.u.

▷Pyrophoric

Birchall, J.M. *et al*, *Chem. Ind. (London)*, 1961, 1080 (synth)

Henneburg, D. *et al*, *Justus Liebigs Ann. Chem.*, 1961, **640**, 52 (ms)

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1965, **682**, 21 (synth)

Haag, A. *et al*, *Justus Liebigs Ann. Chem.*, 1971, **751**, 95 (use)

Spielvogel, B.F. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 1609 (nmr)

Stampf, E.J. *et al*, *J. Organomet. Chem.*, 1977, **131**, 171 (synth)

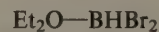
C₄H₁₁BBr₂O

B-00247

Dibromoborane diethyl ether

Dibromohydro[1,1'-oxybis[ethane]]boron, 10Cl. Dibromoborane etherate

[71648-08-3]



M 245.748

Evidence of this compd. provided only by ¹¹B nmr. Moisture-sensitive.

Hu, M.G. *et al*, *Inorg. Chem.*, 1979, **18**, 3297 (synth, nmr)

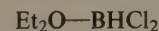
C₄H₁₁BCl₂O

B-00248

Dichloroborane diethyl ether

Dichlorohydro[1,1'-oxybis[ethane]]boron, 10Cl. Dichloroborane [1,1'-oxybis(ethane)], 9Cl. Dichloroborane ethyl etherate, 8Cl. Dichloroborane ethyl etherate

[41156-66-5]



M 156.846

Reagent for general synth. of alkyl- and alkenyl-dichloroboranes *via* hydroboration. Air- and moisture-sensitive liq. Mp -27° to -23°.

Onak, T. *et al*, *J. Phys. Chem.*, 1958, **62**, 1605 (synth, nmr, ir)

Brown, H.C. *et al*, *J. Inorg. Nucl. Chem.*, 1959, **9**, 51 (synth)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 2396; 1976, **98**, 1798, 4917 (use)

Hu, M.G. *et al*, *Inorg. Chem.*, 1979, **18**, 3297.

C₄H₁₁BNO₃P

B-00249

Cyanoborane trimethyl phosphite

(Cyano-C)dihydro(trimethyl phosphite-P)boron, 10Cl, 9Cl. Phosphorous acid trimethyl ester, compd. with boranecarbonitrile (1:1)

[67374-61-2]



M 162.920

Liq.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (synth, nmr, ir)

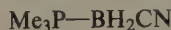
C₄H₁₁BNP

B-00250

[4426-31-7]

Cyanoborane trimethylphosphine

(Cyano-C) dihydro(trimethylphosphine)boron, 10Cl. Boranecarbonitrile, compd. with trimethylphosphine (1:1) [67374-59-8]



M 114.921

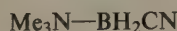
Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (synth, nmr, ir)

C₄H₁₁BN₂

B-00251

Cyanoborane trimethylamine

(Cyano-C)(N,N-dimethylmethanamine)dihydroboron, 10Cl. Boranecarbonitrile, compd. with N,N-dimethylmethanamine (1:1), 9Cl. Boranecarbonitrile, compd. with trimethylamine, 8Cl [30353-61-8]



M 97.954

Boron analogue of an α -aminonitrile. Shows a range of pharmacological effects. White cryst. (THF/pet. ether). Mp 63°.

▷ ED1100000.

Kelly, H.C. *et al*, *J. Chem. Soc., Chem. Commun.*, 1970, 1619 (synth, nmr, ir)

Lavrent'eva, E.A. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 295.

Weidig, C. *et al*, *Inorg. Chem.*, 1974, **13**, 1763 (synth, nmr, ir)

Bratt, P.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1974, 2161 (synth, ir)

Beachley, O.T. *et al*, *Inorg. Chem.*, 1975, **14**, 120 (pmr)

Wisian-Neilson, P. *et al*, *Inorg. Chem.*, 1978, **17**, 2327 (synth, pmr, ir)

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1979, **68**, 685; 1980, **69**, 1025; 1981, **70**, 339 (pharmacol)

C₄H₁₁BO

B-00252

Borane tetrahydrofuran

Trihydro(tetrahydrofuran)boron, 10Cl. Tetrahydrofuran compd. with borane (1:1), 9Cl, 8Cl

[14044-65-6]

As Trifluoroborane tetrahydrofuran, B-00226 with



M 85.940

Hydroborating and reducing agent. Produced comly.

Used only in soln., unstable in pure state, moisture-sensitive.

▷ Flammable

Coyle, T.D. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 2989 (synth)

Fratiello, T.P.O. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 1194 (nmr)

Dodds, A.R. *et al*, *Inorg. Chem.*, 1977, **16**, 2900.

Pelter, A. *et al*, *Comprehensive Org. Chem.*, Barton, D.H.R. *et al*, Ed., 1979, Pergamon, Oxford, **3**, 695 (rev)

Kabalka, G.W. *et al*, *J. Org. Chem.*, 1981, **46**, 4582.

Nöth, H. *et al*, *Inorg. Chem.*, 1981, **20**, 1062.

Stanfield, C.F. *et al*, *J. Org. Chem.*, 1981, **46**, 4799.

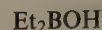
Marsella, J.A. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 2361.

C₄H₁₁BO

B-00253

Diethylhydroxyborane

Diethylboronic acid, 10Cl, 9Cl. Diethylboric acid. Hydroxydiethylborane



M 85.940

Cryst. Mp 95-7°. Dehydrates on heating $\rightarrow$ (Et₂B)₂O.

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **724**, 34; 1974, 54 (synth)

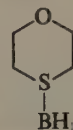
C₄H₁₁BOS

B-00254

Borane 1,4-oxathiane

Trihydro(1,4-oxathiane-O¹)boron, 10Cl. Borane compd. with 1,4-oxathiane (1:1)

[72525-30-5]



M 118.000

Hydroborates alkenes to trialkylboranes efficiently; a less-noxious alternative to borane-dimethyl sulfide as a conc. source of borane; comly. available. Stable liq. which cryst. on cooling, moisture-sensitive. Mp 11-5°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 916.

Brown, H.C. *et al*, *Synthesis*, 1980, 153 (synth, nmr)

U.S.P., 4 298 750, (1981); CA, **96**, 52322h

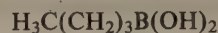
C₄H₁₁BO₂

B-00255

Butyldihydroxyborane

Butylboronic acid, 10Cl, 9Cl. Butylboric acid. Butaneboronic acid

[4426-47-5]



M 101.940

Used for protection of diols and in GC/MS of bifunctional compds. Cryst. (toluene). Mp 92-4°.

Letsinger, R.L. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 864 (synth)

Mirviss, S.B., *J. Org. Chem.*, 1967, **32**, 1713 (synth)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1785, 1798 (synth)

Ger. Pat., 2 627 675, (1977); CA, **86**, 155254k (use)

Mazurek, M. *et al*, *Org. Magn. Reson.*, 1977, **9**, 193 (nmr)

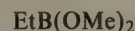
Kossa, W.C., *Chem. Deriv. Anal. Chem.* (Frei, R.W. *et al*, Ed.), 1981, Plenum, N.Y., 99 (rev)

C₄H₁₁BO₂

B-00256

Ethylidimethoxyborane

Ethylboronic acid dimethyl ester, 10Cl, 9Cl. Ethaneboronic acid dimethyl ester, 8Cl. Dimethyl ethaneboronate [7318-82-3]



M 101.940

Fungicide; fuel additive. Liq., air- and moisture-sensitive. Bp 75-7°.

Ger. Pat., 1 111 181, (1958); CA, **56**, 8742i (synth)

U.S.P., 3 027 396, (1962); CA, **57**, 11232q (synth, use)

Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (pmr)

Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (pmr)

Dahlhoff, W.V. *et al*, *Justus Liebigs Ann. Chem.*, 1976, 387 (props)

Dahlhoff, W.V. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1980, **19**, 548 (props)

C₄H₁₁B₇FeO₄

B-00257

[69765-80-6]

Tetracarbonyl(η^2 -heptaborane(11))iron, 9Cl

[54190-57-7]

M 254.646

Structure unknown but see derived anion, Tetracarbonyl[η^2 -dodecahydroheptaborato(1-)]ferrate(1-), B-00277. Mp ~20°.Hollander, O. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 604 (synth, nmr, ms)Et₂O—BH₂Br

M 166.852

Moisture sensitive.

Dodds, A.R. *et al*, *Inorg. Chem.*, 1979, **18**, 1465 (nmr)Hu, M.G. *et al*, *Inorg. Chem.*, 1979, **18**, 3297.C₄H₁₂B[⊖]

B-00258

tert-Butyltrihydroborate

(1,1-Dimethylethyl)trihydroborate(1-), 10Cl. tert-Butylborohydride

(H₃C)₃CBH₃[⊖]

M 70.949 (ion)

Li salt: [76826-51-2].

C₄H₁₂BLi M 77.890

Air- and moisture-sensitive.

Biffar, W. *et al*, *Chem. Ber.*, 1981, **114**, 49 (pmr, nmr)C₄H₁₂B[⊖]

B-00259

Tetramethylborate(1-), 10Cl, 9Cl, 8Cl

Me₄B[⊖]

M 70.949 (ion)

Li salt: [2169-38-2].

C₄H₁₂BLi M 77.890Used in battery electrolytes. White needles (C₆H₆), fairly stable to dry air. Sol. Et₂O, H₂O, C₆H₆, toluene. Mp 189°. Subl. at 140° in vacuo.

▷ May ignite spontaneously in moist air

Hurd, D.T., *J. Org. Chem.*, 1948, **13**, 711 (synth)Williams, K.C. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 4134 (pmr, nmr)Oliver, J.P. *et al*, *J. Am. Chem. Soc.*, 1967, **89**, 163 (nmr)Stucky, G.D. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 1553 (struct, pmr)Rhine, W.E. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 6401 (struct)Horowitz, H.H. *et al*, *Proc.-Electrochem. Soc.*, 1981, **81**, 131 (use)Me₃P—BBr₂Me

M 261.731

Solid. Mp 236-7°.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 1289 (synth, pmr)C₄H₁₂BBrN₂

B-00260

Bromobis(dimethylamino)borane, 8Cl

1-Bromo-N,N,N',N'-tetramethylboranediamine, 10Cl, 9Cl [6990-27-8]

BrB(NMe₂)₂

M 178.866

Liq., sensitive to moisture. Bp₁₀ 70-80°, Bp_{0.5} 20-8°.Brotherton, R.J. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 6242 (synth)Nöth, H., *Z. Naturforsch., B*, 1961, **16**, 618 (synth, props)Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 2197.Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (nmr)King, G.H. *et al*, *Faraday Discuss. Chem. Soc.*, 1972, **54**, 70 (pe)Fuss, W., *Z. Naturforsch., B*, 1974, **29**, 514 (uv)Davidson, G. *et al*, *J. Chem. Soc., Dalton Trans.*, 1981, 306 (ir, raman)C₄H₁₂BBr₂N

B-00262

Dibromomethylborane trimethylamine

Dibromo(N,N-dimethylmethanamine)methylboron, 10Cl. Trimethylamine dibromomethylborane

[69521-22-8]

Me₃N—BMeBr₂

M 244.764

Solid, air- and moisture-sensitive. Mp 256-8°.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 1289 (synth, pmr)C₄H₁₂BBr₂P

B-00263

Dibromomethylborane trimethylphosphine

Dibromomethyl(trimethylphosphine)boron, 10Cl. Methylidibromoborane trimethylphosphine [69513-15-1]

Me₃P—BBr₂Me

M 261.731

Solid. Mp 236-7°.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 1289 (synth, pmr)C₄H₁₂BClN₂

B-00264

Chlorobis(dimethylamino)borane, 8Cl

1-Chloro-N,N,N',N'-tetramethylboranediamine, 10Cl, 9Cl. Bisdimethylaminochloroborane. Bisdimethylamino-boron chloride

[6562-41-0]

ClB(NMe₂)₂

M 134.415

Liq., sensitive to moisture. d₄¹⁸ 0.832. Bp 145-8°, Bp₁₅ 44°. n_D²⁴ 1.4491.Skinner, H.A. *et al*, *J. Chem. Soc.*, 1954, 2324 (synth, props)Brotherton, R.J. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 6242 (synth)Cros, G. *et al*, *Bull. Soc. Chim. Fr.*, 1969, 2601 (ir, raman)King, G.H. *et al*, *Faraday Discuss. Chem. Soc.*, 1972, 70 (pe)Blick, K.E. *et al*, *Z. Anorg. Allg. Chem.*, 1980, **467**, 177 (ir)Hoffmann, R.W. *et al*, *J. Org. Chem.*, 1981, **46**, 1309 (synth, props, pmr)C₄H₁₂BClO

B-00265

Chloroborane diethyl ether

Chlorodihydro[1,1'-oxybis[ethane]]boron, 10Cl. Chloroborane compd. with 1,1'-oxybis[ethane](1:1), 9Cl. Monochloroborane diethyl etherate [36594-41-9]

Et₂O—BH₂Cl

M 122.401

Used in prepn. of dialkylchloroboranes by hydroboration of alkenes. Stable at 0° for several weeks (under N₂); moisture sensitive.C₄H₁₂BBrO

B-00261

Bromoborane diethyl ether

Bromodihydro[1,1'-oxybis[ethane]]boron, 10Cl. Bromoborane compd. with 1,1'-oxybis[ethane](1:1)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2112 (*synth*)
 Brown, H.C. *et al*, *J. Org. Chem.*, 1973, **38**, 182; 1976, **98**, 1785;
 1979, **44**, 2422.
 Carlson, B.A. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6876.
 Hu, M.G. *et al*, *Inorg. Chem.*, 1979, **18**, 3297 (*nmr*)
Ger. Pat., 2 740 017, (1979); *CA*, **91**, P76290u

C₄H₁₂BFN₂**B-00266****Bis(dimethylamino)fluoroborane, 8Cl***1-Fluoro-N,N,N',N'-tetramethylboranediamine, 10Cl,**9Cl. Bisdimethylaminoboron fluoride*

[383-90-4]

FB(NMe₂)₂

M 117.961

Liq., sensitive to moisture; readily dec. Mp −44.3°. Bp 106°, Bp₁₈ 27°.Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 3903 (*synth, props*)Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (*nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 2757.Bock, H. *et al*, *Chem. Ber.*, 1971, **104**, 1687 (*pe*)Fuss, W., *Z. Naturforsch. B*, 1974, **29**, 514 (*uv*)Fussstetter, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (*nmr*)**C₄H₁₂BN****B-00267****(Dimethylamino)dimethylborane, 8Cl***N,N,1,1-Tetramethylboranamine, 9Cl*

[1113-30-0]

Me₂BNMe₂

M 84.956

Air- and moisture-sensitive liq. d 0.729. Bp 63-5°. μ = 1.40D.

Erickson, C.E. *et al*, *J. Org. Chem.*, 1959, **24**, 1161 (*synth*)Bullen, G.J. *et al*, *J. Chem. Soc. (A)*, 1970, 992 (*cryst struct*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **421**, 105(*synth, nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1976, **109**, 1075; 1981, **114**, 49, 1150 (*nmr*)**C₄H₁₂BNO****B-00268****Borane morpholine***Trihydro(morpholine-N⁴)boron, 10Cl. Morpholine compd. with borane(1:1), 9Cl, 8Cl. Morpholine borane [4856-95-5]*

As Trifluoroborane morpholine, B-00234 with

X = H

M 100.955

Used in photographic colour processing. Preservative for metal-working fluid. Shows anticholesteremic, hypolipidemic and antinflamatory activity. Made comly. Cryst. (H₂O). Mp 82-5°, 97-9°.

▷Toxic. QD8530000.

U.S.P., 2 927 133, (1960); *CA*, **55**, 3433iHill, E.A. *et al*, *Tetrahedron Lett.*, 1976, 3013.Bennett, E.O. *et al*, *Mater. Perform.*, 1979, **18**, 40 (*use*)Hall, I.H. *et al*, *J. Pharm. Sci.*, 1981, **70**, 339 (*use*)Wilson, I. *et al*, *Inorg. Chem.*, 1982, **21**, 1622.*U.S.P.*, 4 312 989, (1982); *CA*, **97**, 85322g**C₄H₁₂BNO****B-00269****Dimethylaminomethoxymethylborane***1-Methoxy-N,N,1-trimethylboranamine, 10Cl, 9Cl.**Methyl(dimethylamino)methoxyborane, 8Cl*

[7318-91-4]

Me₂NBMeOMe

M 100.955

Air- and moisture-sensitive liq. Bp₇₂₅ 87-9°. n_D²⁰ 1.3949.Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049; 1973, **106**, 1145 (*nmr*)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*synth, pmr*)Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089.McFarlane, W. *et al*, *Chem. Ber.*, 1975, **108**, 3831 (*nmr*)**C₄H₁₂BNO₂****B-00270****(Dimethylamino)dimethoxyborane***1,1-Dimethoxy-N,N-dimethylboranamine, 10Cl, 9Cl*

[7318-74-3]

(MeO)₂BNMe₂

M 116.954

Moisture-sensitive.

Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (*nmr*)Ebraheem, K.A.K. *et al*, *Org. Magn. Reson.*, 1977, **10**, 258.Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (*nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)**C₄H₁₂BNS₂****B-00271****Dimethylaminobis(methylthio)borane***N,N-Dimethyl-1,1-bis(methylthio)boranamine, 10Cl, 9Cl*

[55580-29-5]

(MeS)₂BNMe₂

M 149.076

Moisture-sensitive.

Costes, J.P. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1975, **280**, 665 (*pmr*)Niedenzu, K. *et al*, *Synth. React. Inorg. Metal-Org. Chem.*, 1980, **10**, 373 (*synth, nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)**C₄H₁₂BO₃[−]****B-00272****Trimethoxymethylborate(1−), 10Cl**(MeO)₃BMe[−]

M 118.947 (ion)

Cu(I) salt: [65139-97-1].C₄H₁₂BCuO₃ M 182.493

Air- and moisture-sensitive.

Maruyama, K. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 8068 (*props*)Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 2318 (*props*)**C₄H₁₂BO₄[−]****B-00273****Tetramethoxyborate(1−), 10Cl, 9Cl, 8Cl**(MeO)₄B[−]

M 134.946 (ion)

Li salt: [6867-35-2].C₄H₁₂BLiO₄ M 141.887Product of total methanolysis of LiBH₄. Cryst. solid.Sol. MeOH, Me₂CO, insol. pet. ether, CHCl₃. Mp >310° dec.Schlesinger, H.I. *et al*, *J. Am. Chem. Soc.*, 1940, **62**, 3429.Onak, T.P. *et al*, *J. Phys. Chem.*, 1959, **63**, 1533 (*nmr*)Lehmann, H.A. *et al*, *Z. Anorg. Allg. Chem.*, 1960, **304**, 88 (*props*)Steinberg, H., *Organoboron Chemistry*, Wiley-Interscience, 1964, **1**, 609 (*synth, props*)

Funck, E., *Ber. Bunsenges. Phys. Chem.*, 1967, **71**, 170 (*ir, struct*)
 Heller, G. *et al*, *Z. Anorg. Allg. Chem.*, 1980, **460**, 228 (*synth*)

C₄H₁₂B₂O B-00274

Oxybis[dimethylborane], 8Cl
 Dimethylborinic acid anhydride, 10Cl, 9Cl. Dimethylboric anhydride
 [19163-04-3]



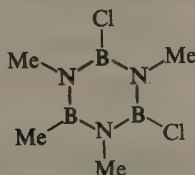
M 97.758
 Air-sensitive liq. Mp -21.2° . Bp 34.8° .

▷Pyrophoric

Goubeau, J. *et al*, *Chem. Ber.*, 1957, **90**, 171 (*synth*)
 Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)
 Lanthier, G.F. *et al*, *Can. J. Chem.*, 1969, **47**, 569 (*synth, ms, ir, nmr, props*)
 Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089 (*nmr*)
 Gundersen, G. *et al*, *J. Mol. Struct.*, 1976, **33**, 97 (*struct*)
 Durig, J.R. *et al*, *J. Mol. Struct.*, 1977, **42**, 13 (*ir, raman*)

C₄H₁₂B₃Cl₂N₃ B-00275

2,4-Dichloro-1,3,5,6-tetramethylborazine, 10Cl, 9Cl, 8Cl
 Tetramethyldi-B-chloroborazine
 [7387-21-5]

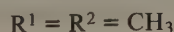


M 205.495
 Forms polymers. Solid by subl. Mp $145-6^\circ$.
 Homopolymer: [30946-46-4]. Component of flame-resistant compositions, plasticizers, fuel additives, neutron absorbers, laminating resins, high temp. insulation, heat transfer media. Light-brown glassy polymer. Mp $180-200^\circ$.

Wagner, R.I. *et al*, *Inorg. Chem.*, 1962, **1**, 93 (*synth*)
 U.S.P., 3 341 474, (1967); CA, **67**, 109171r (*use*)
 Melcher, L.A. *et al*, *Inorg. Chem.*, 1972, **11**, 1247 (*synth, ir*)
 Adcock, J.L. *et al*, *Inorg. Chem.*, 1973, **12**, 788 (*pmr*)
 Melcher, L.A. *et al*, *Inorg. Chem.*, 1973, **12**, 601 (*ms*)
 Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*props*)

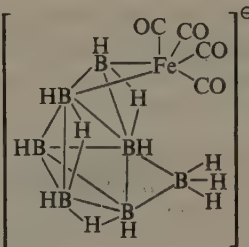
C₄H₁₂B₄ B-00276

2,3-Dimethyl-2,3-dicarbahehexaborane(8), 10Cl
 [20741-68-8]
 As 2,3-Dicarbahehexaborane(8), B-00131 with



M 103.379
 Colourless liq. by vacuum fractionation. Mp -64° .
 Onak, T. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 3378 (*synth, nmr*)
 Boer, F. *et al*, *Inorg. Chem.*, 1964, **3**, 1666 (*struct*)
 Jotham, R. *et al*, *J. Chem. Soc., Dalton Trans.*, 1972, 473 (*ir, raman*)
 Grimes, R. *et al*, *Inorg. Chem.*, 1979, **18**, 3294 (*synth*)

C₄H₁₂B₇FeO₄[⊖] B-00277
 Tetracarbonyl[η²-dodecahydroheptaborato(1-)]ferrate(1-),
 9Cl



M 255.653 (ion)
 Tetrabutylammonium salt: [54083-17-9].
 C₂₀H₄₈B₇FeNO₄ M 498.121
 Deep-amber cryst. (CH₂Cl₂/pentane).
 Hollander, O. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 604 (*synth, struct*)
 Mangion, M. *et al*, *Inorg. Chem.*, 1977, **16**, 2110 (*struct*)

C₄H₁₂B₁₀O₄ B-00278

1,7-Dicarbadodecaborane(12)-1,7-dicarboxylic acid, 10Cl
 1,7-Dicarboxy-1,7-dicarbadodecaborane(12). m-Carboranedicarboxylic acid
 [50571-15-8]
 M 232.236
 closo-. Precursor to carborane polymers. White solid (CH₂Cl₂). Mp 207° . pK_a 6.8.
 Grafstein, D. *et al*, *Inorg. Chem.*, 1963, **2**, 1129 (*synth*)
 Rabilloud, G. *et al*, *J. Organomet. Chem.*, 1979, **182**, 275 (*synth, ir, ms*)

C₄H₁₃AlB₄ B-00279

[(2,6-η)Heptahydro-4,5-dicarbahehexaborato(1-)]dimethylaluminum
 μ-Dimethylaluminum-2,3-η-dicarbahehexaborane
 [55663-16-6]



M 131.368
 Extremely unstable in soln. or liq. phase, characterised by ms. Sl. volatile liq.
 Magee, C.P. *et al*, *J. Organomet. Chem.*, 1975, **86**, 159 (*synth*)

C₄H₁₃BN₂ B-00280

Bis(dimethylamino)borane, 8Cl
 N,N,N',N'-Tetramethylboranediamine, 10Cl, 9Cl.
 Bis(dimethylamino)borine
 [2386-98-3]



M 99.970
 Liq., sensitive to moisture; quite stable on storage under N₂. d₄²⁰ 0.767. Mp -56.8° , -45° . Bp₇₂₀ $106-8^\circ$. n_D²⁰ 1.4232; Trouton constant 20.7 cal. deg.⁻¹ mole⁻¹.

▷Toxic

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 953 (*synth, props*)
 Nöth, H. *et al*, *Z. Anorg. Allg. Chem.*, 1962, **318**, 293 (*synth, props*)
 Goubeau, J. *et al*, *Z. Anorg. Allg. Chem.*, 1967, **352**, 285 (*ir, raman*)
 Bock, H. *et al*, *Chem. Ber.*, 1971, **104**, 1687 (*pe*)

Fussstetter, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (*nmr*)
Inorg. Synth., 1977, **17**, 30 (*synth*, *props*, *ir*, *nmr*)

C₄H₁₃B₂N**B-00281****Bis(dimethylboryl)amine**

N-(Dimethylboryl)-1,1-dimethylboranamine, 10Cl, 9Cl.
 Iminobis[dimethylborane], 8Cl
 [19163-14-5]



M 96.773

Air- and moisture-sensitive liq. Bp₇₂₀ 71-2°.

N-Me: See N,N-Bis(dimethylboryl)methylamine, B-00347

Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23; 1969, **16**, 357 (*synth*, *pmr*)

Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089; 1977, **110**, 2783; 1978, **111**, 3596 (*nmr*)

C₄H₁₄BN**B-00282****Borane tert-butylamine**

Trihydro(2-methyl-2-propanamine)boron, 10Cl. 2-Methyl-2-propanamine compd. with borane(1:1), 9Cl.
 tert-Butylamine compd. with borane, 8Cl
 [7337-45-3]



M 86.971

Used in photographic colour development. Water-soluble borane reducing agent for organic and inorganic compds. Comly. produced. Powder. Mp 98-100° dec., 96°. Dipole moment 4.64D.

▷ Severe poison. EO3900000.

Nöth, H. *et al*, *Chem. Ber.*, 1960, **93**, 928; 1964, **97**, 110 (*synth*)

Purser, J.M. *et al*, *Inorg. Chem.*, 1968, **7**, 2156 (*nmr*)

Lane, C.F., *Aldrichimica Acta*, 1973, **6**, 51 (*rev*)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, Barton, D.H.R. *et al*, Ed., 1979, Pergamon, Oxford, **3**, 695 (*rev*)

C₄H₁₄BN**B-00283****Borane diethylamine**

(N-Ethylethanamine)trihydroboron, 10Cl. N-Ethylethanamine, compd. with borane(1:1), 9Cl. Diethylamine compd. with borane(1:1), 8Cl
 [2670-68-0]



M 86.971

Reducing agent in electrodeless coating procedures. Liq.

Laurent, J.P. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1966, **263**, 965 (*mord*)

Kovar, R.A. *et al*, *Inorg. Chem.*, 1971, **10**, 900.

Frick, W., *Obeflaechentechnik*, 1973, **50**, 450; *CA*, **80**, 43394a.

Kovar, R.A. *et al*, *Inorg. Chem.*, 1975, **14**, 2239 (*synth*)

Myers, W.H. *et al*, *Inorg. Chem.*, 1975, **14**, 2874 (*synth*, *ir*, *nmr*)

Ryschkewitsch, G.E. *et al*, *Synth. React. Inorg. Met.-Org. Chem.*, 1975, **5**, 123 (*synth*)

C₄H₁₄BP**B-00284****Borane trimethylphosphonium methylide**

Trihydro(trimethylphosphonium-η-methylide)boron, 10Cl
 [73946-45-9]



M 103.938

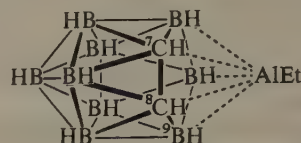
Cryst. (CH₂Cl₂/pentane or THF). Mp 133°.

Schmidbaur, H. *et al*, *Chem. Ber.*, 1980, **113**, 1480 (*synth*, *ms*, *nmr*)

Schmidbaur, H. *et al*, *Chem. Ber.*, 1980, **113**, 2575 (*struct*)

C₄H₁₆AlB₉**B-00285**

Ethyl(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)aluminum
 3-Ethyl-3-alumino-1,2-dicarba-closo-dodecaborane(12)
 [34540-15-3]



M 188.442

Colourless cryst. (C₆H₆/hexane). Mp 97-9°.

▷ Explodes with water

Bis-THF adduct: [34540-18-6].

C₁₂H₃₂AlB₉O₂ M 332.655

Mp 119-20°.

Young, D.A.T. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5687 (*synth*, *ir*, *pmr*, *nmr*)

Churchill, M.R. *et al*, *J. Chem. Soc., Dalton Trans.*, 1972, 1317 (*struct*)

C₄H₁₆AlB₉**B-00286**

Ethyl(7,8,9,10,11-η)undecahydro-7,9-dicarbaundecaborato(2-)aluminum
 3-Ethyl-3-alumino-1,7-dicarba-closo-dodecaborane(12)
 [34606-90-1]

M 188.442

Mp 100-2°.

▷ Explodes with water

Young, D.A.T. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5687 (*synth*, *ir*, *pmr*, *nmr*)

C₄H₁₆B₉Ga**B-00287**

Ethyl[(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)]gallium, 9Cl
 3-Ethyl-3-gallo-1,2-dicarbadoecaborane(12)
 [34540-17-5]

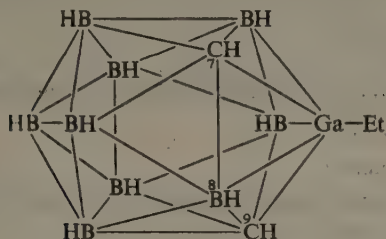
M 231.180

Struct. by analogy with Al analogue. Extremely air-sensitive solid. Mp 114-5° (sealed tube). Partly isom. on heating at 400° to Ethyl[(7,8,9,10,11-η)undecahydro-7,9-dicarbaundecaborato(2-)]gallium, B-00288.

Young, D.A.T. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5687 (*synth*, *nmr*, *ir*, *pmr*)

C₄H₁₆B₉Ga**B-00288**

Ethyl[(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)]gallium, 9Cl
3-Ethyl-3-gallo-1,7-dicarbadodecaborane(12)
[34540-19-7]



M 231.180

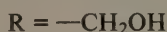
Struct. assumed by analogy with Al analogue. Formed on heating Ethyl[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]gallium, B-00287 to 400°. Solid.

Young, D.A.T. et al, *J. Am. Chem. Soc.*, 1971, **93**, 5687 (synth, nmr, ir, pmr)

C₄H₁₆B₁₀O₂**B-00289**

1,2-Dicarbadodecaborane(12)-1,2-dimethanol, 10Cl
1,2-Dimethylol-1,2-dicarbadodecaborane(12)
[19610-37-8]

As 1,2-Dicarbadodecaborane(12), B-00151 with



M 204.269

closo-. Used in polyester carborane and polyurethane carborane syntheses. White solid (toluene). Mp 304°.

Fein, M.M. et al, *Inorg. Chem.*, 1963, **2**, 1115 (synth)
Heying, T.L. et al, *Inorg. Chem.*, 1963, **2**, 1097 (synth)
Green, J. et al, *J. Polym. Sci., Part A*, 1964, **2**, 3113 (synth)
Korshak, V.V. et al, *Vysokomol. Soedin, Ser. A*, 1970, **13**, 2137 (synth)
Bartet, B. et al, *C.R. Hebd. Seances Acad. Sci.*, 1974, **279**, 283, 593 (ir, nmr)

C₄H₁₆B₁₀O₂**B-00290**

1,7-Dicarbadodecaborane(12)-1,7-dimethanol, 10Cl
1,7-Dimethylol-1,7-dicarbadodecaborane
[23924-78-9]

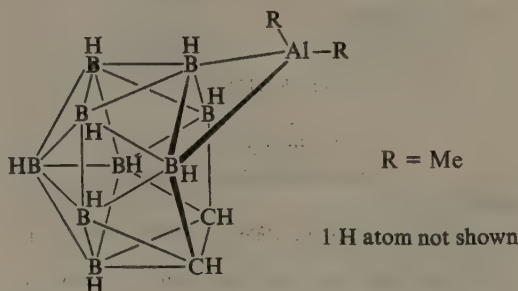
M 204.269

closo-. Used in polyester carborane and polyurethane carborane syntheses. White solid (toluene). Mp 194-6°.

Grafstein, D. et al, *Inorg. Chem.*, 1963, **2**, 1129 (synth)
Bartet, B. et al, *C.R. Hebd. Seances Acad. Sci.*, 1974, **279**, 283 (ir)

C₄H₁₈AlB₉**B-00291**

Dodecahydro-7,8-dicarbaundecaborato(1-)-H⁹,H¹⁰ dimethylaluminum
7,8- μ -Dimethylalumino-1,2-dicarba-nido-undecaborane(13)
[11098-56-9]



M 190.458

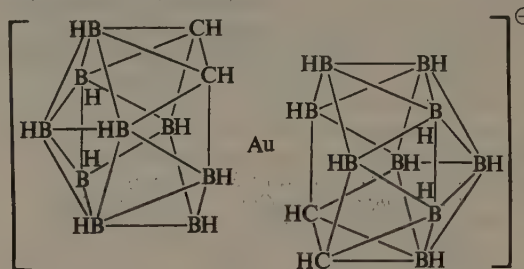
Colourless cryst. (C₆H₆). Mp 120-2°. Subl. *in vacuo*.

Explodes with water

Young, D.A.T. et al, *J. Am. Chem. Soc.*, 1971, **93**, 5687 (synth, pmr, nmr)
Churchill, M.R. et al, *J. Chem. Soc., Dalton Trans.*, 1972, 1314 (struct)

C₄H₂₂AuB₁₈[⊖]**B-00292**

Bis[undecahydro-1,2-dicarbaundecaborato(2-)]aurate(1-),
8Cl
Bis(dicarbollide)aurate(1-)



M 461.764 (ion)

"Slipped" sandwich struct. Large red cryst. (CH₂Cl₂/hexane).

Tetraethylammonium salt:

C₁₂H₄₂AuB₁₈N M 592.017

Glittering red plates (CH₂Cl₂/hexane). Sol. Me₂CO, CH₂Cl₂, MeCN.

Methyltriphenylphosphonium salt:

C₂₃H₄₀AuB₁₈P M 739.089

Large red cryst. (CH₂Cl₂/hexane).

Warren, L.F. et al, *J. Am. Chem. Soc.*, 1968, **90**, 4823 (synth, nmr, pmr, ir)

Wing, R.M., *J. Am. Chem. Soc.*, 1968, **90**, 4828 (cryst struct)

C₄H₂₂AuB₁₈^{⊖⊖}**B-00293**

Bis[undecahydro-1,2-dicarbaundecaborato(2-)]aurate(2-),
8Cl
Bis(dicarbollide)aurate(2-)

M 461.764 (ion)

"Slipped" sandwich struct.

Bis(tetraethylammonium) salt:

C₂₀H₆₂AuB₁₈N₂ M 722.270

Blue, paramagnetic microcryst. Sol. THF, MeCN. μ_{eff} = 1.79 BM.

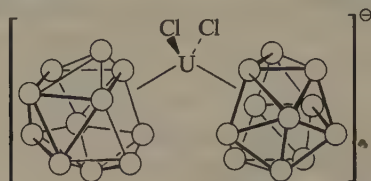
Warren, L.F. et al, *J. Am. Chem. Soc.*, 1968, **90**, 4823 (synth)

Handle all chemicals with care

$C_4H_{22}B_{18}Cl_2U^{--}$

B-00294

Dichlorobis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato]uranate(2-)



○ = BH or CH (position of CH's not rigorously established)

M 573.733 (ion)

Di-Li salt, octa-THF complex: [62559-95-9].

$C_{36}H_{86}B_{18}Cl_2Li_2O_8U$ M 1164.468

Yellow-orange cryst. Dec. by air and water.

Fronczek, F.R. et al, *J. Am. Chem. Soc.*, 1977, **99**, 1769 (synth, uv, cryst struct)

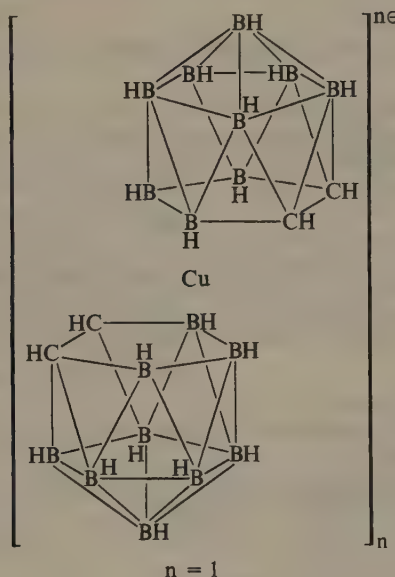
 $C_4H_{22}B_{18}Cu^{--}$

B-00295

Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(1-), 9Cl

Bis(dicarbollide)cuprate(1-)

[51805-68-6]



M 328.344 (ion)

An example of a "slipped" sandwich complex.

Methyltriphenylphosphonium salt:

$C_{23}H_{40}B_{18}CuP^+$ M 605.669

Dark blood-red cryst. (CH_2Cl_2 /hexane). Sol. CH_2Cl_2 , Me_2CO .

Warren, L.F. et al, *J. Am. Chem. Soc.*, 1968, **90**, 4823 (synth)

Wing, R.M. et al, *J. Am. Chem. Soc.*, 1968, **90**, 4828 (cryst struct)

Mingos, D.M.P. et al, *J. Organomet. Chem.*, 1978, **146**, C37.

 $C_4H_{22}B_{18}Cu^{--}$

B-00296

Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(2-), 9Cl

Bis(dicarbollide)cuprate(2-)

As Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(1-), B-00295 with

n = 2

M 328.344 (ion)

An example of a "slipped" sandwich complex.

Di-K salt: [42992-84-7].

$C_4H_{22}B_{18}CuK_2$ M 406.540

Blue cryst. (Me_2CO /hexane). Sol. CH_2Cl_2 , Me_2CO .

Wing, R.M., *J. Am. Chem. Soc.*, 1967, **89**, 5599 (cryst struct)

Hawthorne, M.F. et al, *J. Am. Chem. Soc.*, 1968, **90**, 879

(synth)

Warren, L.F. et al, *J. Am. Chem. Soc.*, 1968, **90**, 4823 (synth)

Mingos, D.M.P. et al, *J. Organomet. Chem.*, 1978, **146**, C37.

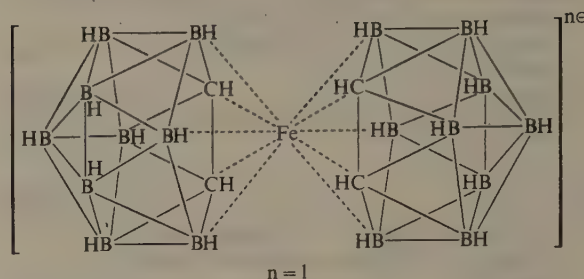
 $C_4H_{22}B_{18}Fe^{--}$

B-00297

Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-)

Bis- π -(3)-1,2-Dicarballyliron(1-)

[65465-56-7]



M 320.645 (ion)

Paramagnetic.

Cs salt: [12304-97-1].

$C_4H_{22}B_{18}CsFe$ M 453.550

Black cryst. (H_2O).

Tetramethylammonium salt: [12304-95-9].

$C_8H_{34}B_{18}FeN$ M 394.790

Red plates (Me_2CO aq.). Mp >300°.

Inorg. Synth., 1967, **10**, 91 (synth)

Hawthorne, M.F. et al, *J. Am. Chem. Soc.*, 1968, **90**, 879

(synth, ir, uv, nmr)

Inorg. Synth., 1970, **10**, 111 (synth)

Birchall, T. et al, *Inorg. Chem.*, 1971, **10**, 399 (mössbauer)

Wiersema, R.J. et al, *J. Am. Chem. Soc.*, 1974, **96**, 761 (cmr, nmr)

Ammeter, J.H., *J. Magn. Reson.*, 1978, **30**, 299 (esr)

 $C_4H_{22}B_{18}Fe^{--}$

B-00298

Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(2-)

Bis- π -(3)-1,2-dicarballyliron(2-)

[51868-94-1]

As Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-), B-00297 with

n = 2

M 320.645 (ion)

Diamagnetic.

Bis(tetramethylammonium) salt:

$C_{12}H_{46}B_{18}FeN_2$ M 468.936

Deep-pink cryst. (Me_2CO /toluene).

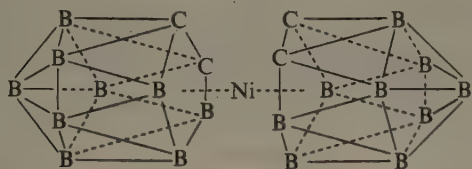
Hawthorne, M.F. et al, *J. Am. Chem. Soc.*, 1968, **90**, 879

(synth, ir, pmr, nmr, uv)

C₄H₂₂B₁₈Ni

B-00299

Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickel, 9Cl
[36548-55-7]



M 323.488

Air-stable orange cryst. Sol. most org. solvs. Subl. unchanged in vacuo at 150°, dec. ~265°.

Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 879 (synth, ir, pmr)

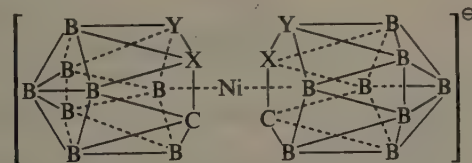
St Clair, D. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 1173 (struct)

Smith, D.E. *et al*, *J. Chem. Soc., Dalton Trans.*, 1971, 8 (polarog)

C₄H₂₂B₁₈Ni[⊖]

B-00300

Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(1-), 9Cl
[51159-91-2]



X = C, Y = B

M 323.488 (ion)

Rb salt:

C₄H₂₂B₁₈NiRb M 408.956

Green-black lustrous cryst.

Tetramethylammonium salt: [51159-92-3].

C₈H₃₄B₁₈NNi M 397.633

Yellow-brown solid. Mp >300°.

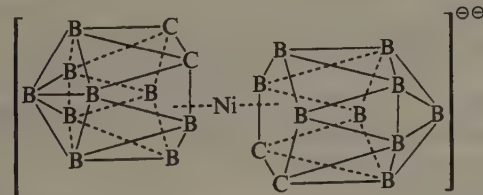
Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 879 (synth, ir, pmr)

Hansen, F.V. *et al*, *Acta Chem. Scand.*, 1973, **27**, 1210 (struct)

C₄H₂₂B₁₈Ni^{⊖⊖}

B-00301

Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(2-), 9Cl
[36733-09-2]



M 323.488 (ion)

Bis(tetramethylammonium) salt:

C₁₂H₄₆B₁₈N₂Ni M 471.779

Pale-brown needles. Extremely air-sensitive.

Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 879 (synth, ir, pmr)

Wing, R.M., *J. Am. Chem. Soc.*, 1968, **90**, 4828 (struct)

Pavlik, I. *et al*, *CA*, 1976, **85**, 93221 (pe)

C₄H₂₂B₁₈Ni[⊖]

B-00302

Bis[(7,8,9,10,11- η)-undecahydro-7,9-dicarbaundecaborato(2-)]nickelate(1-), 9Cl

As Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(1-), B-00300 with

X = B, Y = C

M 323.488 (ion)

Tetramethylammonium salt:

C₈H₃₄B₁₈NNi M 397.633Olive-green cryst. (Me₂CO aq.). Mp >300°.

Rb salt: [42443-78-7].

C₄H₂₂B₁₈NiRb M 408.956

No phys. details recorded.

Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 862, 879 (synth, ir, pmr)

Pont, L.O. *et al*, *Inorg. Chem.*, 1974, **13**, 483 (pe)

C₄H₂₄B₁₀In₂

B-00303

Dimethylindium[η^4 -dodecahydrodecaborato(2-)]dimethylindate(1-), 9Cl
[55988-45-9]

[Me₂In][⊕][B₁₀H₁₂InMe₂][⊖]

M 409.974

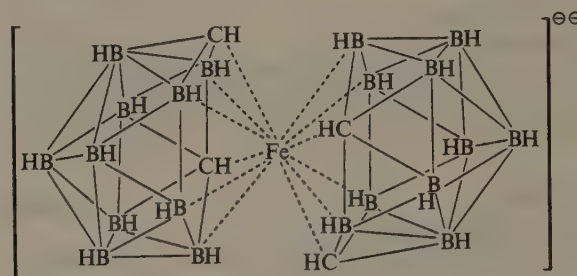
Solid, air-sensitive. Sol. Me₂CO.

Greenwood, N.N. *et al*, *J. Chem. Soc., Dalton Trans.*, 1975, **4**, 299 (synth, ir, nmr)

C₄H₂₄B₂₀Fe^{⊖⊖}

B-00304

Bis[(7,8,9,10,11,12- η)-dodecahydro-7,9-dicarbadodecaborato(2-)]ferrate(2-), 9Cl
Bis(π -B₁₀C₂H₁₂)ferrate(2-)
[55073-27-3]



M 344.281 (ion)

Bis(tetraethylammonium) salt: [40904-18-5].

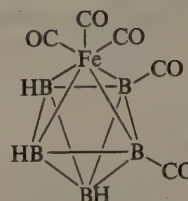
C₂₀H₆₄B₂₀FeN₂ M 604.786Purple cryst. (Me₂CO/EtOH). Mp >240° dec.

Dustin, D.F. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 1109 (synth, polarog, pmr, nmr, ir, uv)

C₅H₃B₅FeO₅

B-00305

Tricarbonyl[(2,3,4,5- η)-dicarbonyltrihydropentaborato(2-)]iron, 10Cl
[61525-93-7]



M 252.973

Orange solid or red liq. Mp ~5°.

Ulman, J.A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 632

(*synth*, *ms*, *ir*, *nmr*, *pmr*)

Ulman, J.A. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 456 (*pe*)

C₅H₅B B-00306

Borabenzene

Borin, 10Cl, 9Cl

[31029-61-5]



M 75.905

Parent member of a series of organoboron compds. known only in the form of anionic derivatives and metal complexes thereof. Never prepd. as the free parent compd. See also Boratabenzene, B-00316.

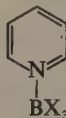
Allen, C.W. *et al*, *J. Chem. Educ.*, 1978, **55**, 497 (*rev*)

C₅H₅BBr₃N B-00307

Tribromoborane pyridine

Tribromo(pyridine)boron, 10Cl. Pyridine compd. with *tribromoborane*(1:1), 9Cl. Pyridine compd. with *boron bromide*(BBr₃)(1:1), 8Cl

[3022-54-6]



X = Br

M 329.623

Cryst. (C₆H₆).

Greenwood, N.N. *et al*, *Pure Appl. Chem.*, 1961, **2**, 55.

Gates, P.N. *et al*, *Spectrochim. Acta*, 1965, **21**, 1445 (*nmr*)

Davies, P.G. *et al*, *Inorg. Nucl. Chem. Lett.*, 1967, **3**, 249 (*ir*)

Hensen, K. *et al*, *Chem. Ber.*, 1970, **103**, 2091 (*uv*)

Rubenacker, G.V. *et al*, *Inorg. Chem.*, 1980, **19**, 392 (*nqr*)

C₅H₅BCl₃N B-00308

Trichloroborane pyridine

Trichloro(pyridine)boron, 10Cl. Pyridine compd. with *trichloroborane*(1:1), 9Cl. Pyridine compd. with *boron chloride*(BCl₃)(1:1), 8Cl

[2903-67-5]

As Tribromoborane pyridine, B-00307 with

X = Cl

M 196.270

Crosslinking catalyst for epoxy resins. Cryst. (C₆H₆). Mp 110-3°.

Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1089 (*synth*)

Davies, P.G. *et al*, *Inorg. Nucl. Chem. Lett.*, 1967, **3**, 249 (*ir*)

Fratello, A. *et al*, *Inorg. Chem.*, 1968, **7**, 1581 (*nmr*)

Hensen, K. *et al*, *Chem. Ber.*, 1970, **103**, 2091 (*uv*)

Rubenacker, G.V. *et al*, *Inorg. Chem.*, 1980, **19**, 392 (*nqr*)

Toepel, K. *et al*, *Acta Crystallogr., Sect. B*, 1981, **37**, 969 (*struct*)

C₅H₅BF₃N B-00309

Trifluoroborane pyridine

Trifluoro(pyridine)boron, 10Cl. Pyridine compd. with *trifluoroborane*(1:1), 9Cl. Pyridine compd. with *boron fluoride*(BF₃)(1:1), 8Cl

[407-76-1]

As Tribromoborane pyridine, B-00307 with

X = F

M 146.906

Crosslinking agent for epoxy resins. White cryst. with very faint pyridine odour. Sol. C₆H₆, Py, hot EtOH, insol. Et₂O. Mp 45°. Bp 300°.

Van der Meulen *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 4404 (*synth*)

Perkampus, H.H. *et al*, *Bunsenges Phys. Chem.*, 1967, **71**, 439 (*nmr*)

Hensen, K. *et al*, *Theor. Chim. Acta*, 1968, **12**, 206 (*uv*)

Taillandier, M. *et al*, *Spectrochim. Acta, Part A*, 1969, **25**, 1807 (*ir*)

Hensen, K. *et al*, *Chem. Ber.*, 1970, **103**, 2091 (*uv*)

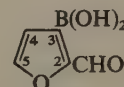
Barber, M. *et al*, *J. Chem. Soc., Faraday Trans. 2*, 1973, **69**, 551 (*pe*)

C₅H₅BO₄ B-00310

(2-Formyl-3-furanyl)dihydroxyborane

(2-Formyl-3-furanyl)boronic acid, 10Cl, 9Cl. 2-Formyl-3-furanboronic acid, 8Cl

[27339-37-3]



M 139.902

Used in prep. of boron-containing heterocycles. Cryst. (H₂O). Mp 138° dec.

Florentin, D. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1970, **270**, 1608.

Ger. Pat., 2 264 363, (1973); *CA*, **79**, 92369j (*use*)

Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1974, **11**, 2620 (*props*)

Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1999 (*synth*, *nmr*)

Florentin, D. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1265.

Florentin, D. *et al*, *J. Chem. Res. (S)*, 1977, 158.

C₅H₅BO₄ B-00311

(3-Formyl-2-furanyl)dihydroxyborane

(3-Formyl-2-furanyl)boronic acid, 10Cl, 9Cl. 3-Formyl-2-furanboronic acid, 8Cl

[27339-38-4]

M 139.902

Cryst. (H₂O). Mp 155° dec.

Florentin, D. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1970, **270**, 1608.

Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1999 (*synth*, *nmr*)

Florentin, D. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1265.

Florentin, D. *et al*, *J. Chem. Res. (S)*, 1977, 158 (*props*)

C₅H₅BO₄ B-00312

(4-Formyl-2-furanyl)dihydroxyborane

(4-Formyl-2-furanyl)boronic acid, 10Cl

[62306-78-9]

M 139.902

Cryst. (H₂O). Mp 150° dec.

Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1999 (*synth*, *nmr*)

Florentin, D. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1265 (*props*)

C₅H₅BO₄ B-00313

(4-Formyl-3-furanyl)dihydroxyborane

(4-Formyl-3-furanyl)boronic acid, 10Cl. 4-Formyl-3-furanboronic acid, 8Cl

[27339-36-2]

M 139.902

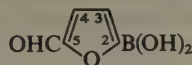
Cryst. (H₂O). Mp 136-8° dec.Florentin, D. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1970, **270**, 1608.Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1999 (*synth*, *nmr*)Florentin, D. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1265 (*props*)Florentin, D. *et al*, *J. Chem. Res. (S)*, 1977, 158 (*props*)C₅H₅BO₄

B-00314

(5-Formyl-2-furanyl)dihydroxyborane

(5-Formyl-2-furanyl)boronic acid, 10Cl

[27329-70-0]



M 139.902

Cryst. (H₂O). Mp 145° dec.Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1999 (*synth*)Florentin, D. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1265.C₅H₅BO₄

B-00315

(5-Formyl-3-furanyl)dihydroxyborane

(5-Formyl-3-furanyl)boronic acid, 10Cl

[62306-80-3]

M 139.902

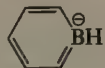
Cryst. (H₂O). Dec. at 116°.Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1999 (*synth*)Florentin, D. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1265.C₅H₆B[⊖]

B-00316

Boratabenzene, 10Cl, 9Cl, 8Cl

Borin, boratabenzene deriv., 10Cl, 9Cl

[55926-39-1]



M 76.912 (ion)

The simple metal salts (e.g. Na⁺) of boratabenzene anions have only been prepd. for compds. containing an organic substituent on boron. However, transition metal complexes of this, the parent system, are known.

Fe complex: see Bis(η⁶-boratabenzene)iron, B-00651

Allen, C.W. *et al*, *J. Chem. Educ.*, 1978, **55**, 497 (*rev*)Ashe, A.J. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 7066 (*synth*, *cryst struct*, *nmr*, *ms*, *deriv*)Clack, D.W. *et al*, *Inorg. Chem.*, 1979, **18**, 513.Clack, D.W. *et al*, *J. Organomet. Chem.*, 1981, **208**, 183.C₅H₆BF₆N

B-00317

1,1-Dimethyl-N-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]boranamine, 10Cl

[61707-35-5]



M 204.910

Yellow liq., sensitive to air. Bp₉₉ 70-3°.

Gragg, B.R. *et al*, *Synth. React. Inorg. Metal-Org. Chem.*, 1976, **6**, 275 (*synth*, *props*)

Emerick, D.P. *et al*, *J. Organomet. Chem.*, 1978, **153**, 9 (*synth*, *ms*, *nmr*, *ir*)

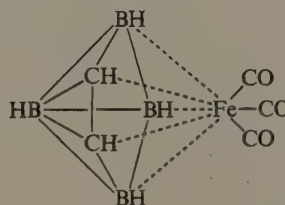
Emerick, D.P. *et al*, *Z. Anorg. Allg. Chem.*, 1980, **468**, 44.

C₅H₆B₄FeO₃

B-00318

Tricarbonyl[(2,3,4,5,6-η)-hexahydro-2,3-dicarbaheptaborato(2-)]iron, 9Cl
(π-2,3-C₂B₄H₆)tricarbonyliron. 1,2,3-Tricarbonyliron-C₂B₄H₆

[51177-52-7]



M 213.188

Deep yellow-orange liq.

Grimes, R.N., *J. Am. Chem. Soc.*, 1971, **93**, 261 (*synth*, *ms*, *nmr*, *pmr*, *ir*)

Sneddon, L.G. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6623 (*synth*, *ms*, *pmr*, *nmr*, *ir*)

C₅H₆B₄FeO₃

B-00319

Tricarbonyl[(2,3,4,5,6-η)-hexahydro-2,4-dicarbaheptaborato(2-)]iron
(π-2,4-C₂B₄H₆)tricarbonyliron. 1,2,4-(Tricarbonyliron)-C₂B₄H₆

M 213.188

Orange.

Sneddon, L.G. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6623 (*synth*, *nmr*, *pmr*, *ir*)

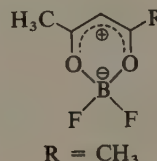
C₅H₇BF₂O₂

B-00320

Difluoro(2,4-pentanedionato-O, O')boron, 10Cl

Difluoroboryl acetylacetonate. Boron acetylacetonate difluoride

[15390-25-7]

R = CH₃

M 147.916

Catalyst for curing epoxy resins. Cryst. (CHCl₃/pet. ether); air- and moisture-sensitive. Sol. C₆H₆; insol. pet. ether. Mp 43°. Dec. by warm EtOH.

▷ED7600000.

Morgan, G.T. *et al*, *J. Chem. Soc.*, 1924, **125**, 1963 (*synth*)

Toporcer, L.H. *et al*, *Inorg. Chem.*, 1965, **4**, 1649 (*synth*, *nmr*, *uv*, *ir*)

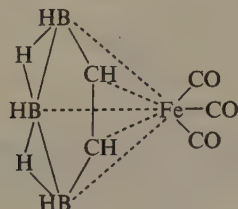
Angelos, N., *Justus Liebigs Ann. Chem.*, 1966, **700**, 29 (*synth*)

Trestianu, A. *et al*, *Tetrahedron*, 1968, **24**, 2499 (*pmr*)

Brown, N.M.D. *et al*, *J. Chem. Soc. (A)*, 1969, 526 (*ir*, *uv*, *nmr*)

Hammel, J.C. *et al*, *J. Chem. Soc. (A)*, 1969, 1461 (nmr, ir, uv)**C₅H₇B₃FeO₃****B-00321****Tricarbonyl[(1,2,3,4,5-η)-heptahydro-1,2-dicarbapentaborato(2-)]iron, 10Cl***Dicarbacyclopentaboranyliron tricarbonyl. (2,3-C₂B₃H₇)tricarbonyliron*

[33362-89-9]

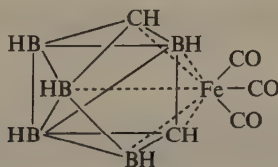


M 203.386

Pale-yellow liq. Mp 0-15°.

Grimes, R.N., *J. Am. Chem. Soc.*, 1971, **93**, 261 (*synth*, *pmr*, *ms*, *ir*)Franz, D.A. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 412 (*synth*)Brennan, J.P. *et al*, *Inorg. Chem.*, 1973, **12**, 2266 (*struct*)Sneddon, L.G. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6623 (*synth*, *nmr*, *ir*)Ulman, J.A. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 456 (*pe*)**C₅H₇B₅FeO₃****B-00322****Tricarbonyl[(3,4,5,6,7-η)-heptahydro-3,5-dicarbapentaborato(2-)]iron, 9Cl***(4)-1,8-(Tricarbonyliron)-C₂B₅H₇*

[51203-46-4]



M 225.006

Orange.

Sneddon, L.G. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6623 (*synth*, *nmr*, *pmr*, *ir*)**C₅H₈BN****B-00323****Borane pyridine***Trihydro(pyridine)boron, 10Cl. Pyridine compd. with borane(1:1), 9Cl, 8Cl*

[110-51-0]

As Tribromoborane pyridine, B-00307 with

X = H

M 92.935

Germicide, fungicide, and protozoicide, used in photographic colour development of reversal films.

Reducing agent. Produced comly. Liq. Mp 10-1°. *n*_D²⁰ 1.5315.

▷Toxic, flammable. US3675000.

Brey, W.S. *et al*, *Adv. Chem. Ser.*, 1964, **42**, 100 (*nmr*)Hoffmann, R., *J. Chem. Phys.*, 1964, **40**, 2474 (*struct*)Hermanek, S. *et al*, *Collect. Czech. Chem. Commun.*, 1966, **31**, 1281 (*chromotog*)Andrews, G.C., *Tetrahedron Lett.*, 1980, **21**, 697.Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1981, 1014.Schaefer, T. *et al*, *Can. J. Chem.*, 1981, **59**, 3026 (*struct*)**C₅H₉B****B-00324****Methyldivinylborane, 8Cl***Diethenylmethylborane, 10Cl, 9Cl. Methyldivinylborine*

[5856-68-8]



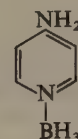
M 79.936

Volatile liq., easily oxid. in air. Sol. nonpolar solvs. V.p. 126 mm at 0°.

▷Probably pyrophoric

Parsons, T.D. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 1710; 1957, **79**, 5091 (*synth*)Good, C.D. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 1162 (*synth*)Good, C.D. *et al*, *J. Chem. Eng. Data*, 1962, **7**, 416 (*props*, *chromatog*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*nmr*)Durig, J.R. *et al*, *J. Mol. Struct.*, 1981, **72**, 85 (*raman*, *ir*, *nmr*)**C₅H₉BN₂****B-00325****Borane 4-aminopyridine***Trihydro(4-pyridinamine-N¹)boron, 10Cl. 4-Pyridinamine compd. with borane(1:1), 9Cl*

[59900-43-5]

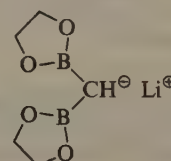


M 107.950

Used in photographic developer solns.

May, C.E. *et al*, *Synth. React. Inorg. Metal-Org. Chem.*, 1977, **7**, 509.U.S.P., 4 042 392, (1977); *CA*, **88**, 30399wLelental, M. *et al*, *J. Photogr. Sci.*, 1978, **26**, 135 (*use*)**C₅H₉B₂LiO₄****B-00326****[Bis(1,3,2-dioxaborolan-2-yl)methyl]lithium, 9Cl***Lithium bis(ethylenedioxyboryl)methide*

[57404-82-7]

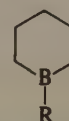


M 161.685

Reagent for conversion of RCOR' to RR'CHCHO.

Matteson, D.S. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 5608 (*synth*)Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, **6**, 328.**C₅H₁₁B****B-00327****Borinane, 10Cl, 9Cl, 8Cl***Boracyclohexane*

[289-53-2]



R = H

M 81.952

Known as H-bridged dimer or as complexes. Hydroborating agent. Air- and moisture-sensitive.

Tetraethylethylenediamine complex: [79069-87-7]. No phys. props. reported.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 3777 (props)

Zweifel, G. *et al*, *Synthesis*, 1972, 557 (props, use)

Negishi, E. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6757 (deriv)

Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 4713 (props)

Brown, H.C. *et al*, *Heterocycles*, 1982, **17**, 77 (props)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1982, **225**, 63 (use)

C₅H₁₁B

Cyclopentylborane

B-00328



M 81.952

Tetramethylethylenediamine complex (2:1): [69319-86-4]. *Dicyclopentyltetrahydro*[μ-(N,N,N',N'-tetramethyl-1,2-ethanediamine-N:N')]diboron, 10Cl. *Bis*-(cyclopentylborane)tetramethylethylenediamine.

C₁₆H₃₈B₂N₂ M 280.110

Useful for long-term storage of cyclopentylborane.

Air-stable solid. Mp 105-6°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 465 (synth)C₅H₁₁B

1-Methylborolane, 10Cl

B-00329

[67963-90-0]

As Borolane, B-00227 with

R = Me

M 81.952

Air-sensitive. Sol. nonhydroxylic solvs.

▷Prob. pyrophoric

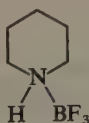
Schmidt, A. *et al*, *Z. Naturforsch., B*, 1978, **33**, 855 (props)C₅H₁₁BF₃N

Trifluoroborane piperidine

B-00330

Trifluoro(piperidine)boron, 10Cl. *Piperidine compd. with trifluoroborane*(1:1), 9Cl. *Piperidine compd. with boron fluoride*(BF₃)(1:1), 8Cl

[592-39-2]



M 152.954

Crosslinking agent for epoxy resins, catalyst. Cryst. Mp 71-3°.

Bowlus, H. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 3835.Lawesson, S.O., *Ark. Kemi*, 1956, **10**, 171 (synth)Onak, T.P. *et al*, *J. Phys. Chem.*, 1959, **63**, 1533 (nmr)Meek, D.W. *et al*, *Inorg. Chem.*, 1966, **5**, 445.Japan. Pat., 73 39 154, (1973); *CA*, **81**, 30228vJapan. Pat., 78 114 900, (1978); *CA*, **90**, 72868v (use)C₅H₁₁BO

1-Methoxyborolane, 10Cl, 9Cl, 8Cl

B-00331

B-Methoxyboracyclopentane

[6166-10-5]

As Borolane, B-00227 with

R = OMe

M 97.951

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs.

d₂₀ 0.842. Bp₈₃ 40.5-41°. n_D²⁰ 1.4172.

▷Prob. pyrophoric

Köster, R., *Angew. Chem.*, 1959, **71**, 520 (synth)Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci.**Khim.*, 1962, **147**, 630 (synth, props)Gal'chenko, G.L. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci.**Khim.*, 1966, **166**, 103 (props)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 3400, 6682

(synth)

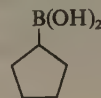
Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (nmr)Wrackmeyer, B., *Z. Naturforsch., B*, 1980, **35**, 439 (nmr)C₅H₁₁BO₂

B-00332

Cyclopentylidihydroxyborane

Cyclopentylboronic acid, 10Cl. *Cyclopentaneboronic acid*

[63076-51-7]



M 113.951

Cryst. (H₂O); somewhat sensitive to air. Mp 90-2°.

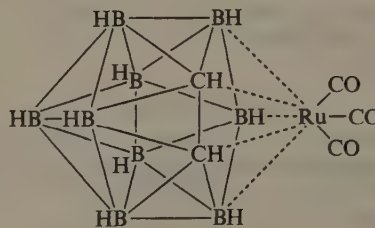
O,O-Di-Me: see Cyclopentylidimethoxyborane, B-00500

Thaisrivongs, S. *et al*, *J. Org. Chem.*, 1977, **42**, 3243 (synth, ir, pmr)Taniguchi, H., *Bull. Chem. Soc. Jpn.*, 1979, **52**, 2946 (ester)Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 384 (ester, props)C₅H₁₁B₉O₃Ru

B-00333

Tricarbonyl[(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, 9Cl

[56465-06-6]



M 317.500

Yellow cryst. + ½C₆H₆ (C₆H₆/cyclohexane). Mp >350°.Siedle, A.R., *J. Organomet. Chem.*, 1975, **90**, 249 (synth, ir, uv, nmr, pmr, ms)C₅H₁₃B

Diethylmethylborane, 10Cl, 9Cl

B-00334

Methyldiethylborane. Diethylmethylborine

[1115-07-7]

Et₂BMe

M 83.968

Liq., air-sensitive. Sol. THF. Mp -135.5°. Bp 61°.

▷Pyrophoric

Birchall, J.M. *et al*, *Chem. Ind. (London)*, 1961, 1080 (*synth*)
 Henneberg, D. *et al*, *Justus Liebigs Ann. Chem.*, 1961, **640**, 52 (*ms*)
 Nöth, H., *Chem. Ber.*, 1973, **106**, 1508 (*use*)
 Smith, M.B., *J. Organomet. Chem.*, 1974, **76**, 171 (*props*)
 Spielvogel, B.F. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 1609 (*nmr*)
 Stampf, E.J. *et al*, *J. Organomet. Chem.*, 1977, **131**, 171 (*synth, props*)

C₅H₁₃B**B-00335****3-Methyl-2-butylborane**

(1,2-Dimethylpropyl)dihydroboron. 1,2-Dimethylpropylborane. Monosiamylborane. Siamylborane



M 83.968

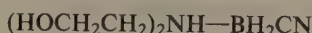
Et₃N complex: [56118-68-4]. (N,N-Diethylethanamine)-(1,2-dimethylpropyl)dihydroboron, 10Cl. 1,2-Dimethylpropylborane N,N-diethylethanamine, 9Cl. Siamylborane triethylamine.

C₁₁H₂₈BN M 185.159

Useful means of storage of monosiamylborane. Stable to disproportion at r.t., unlike the free borane.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2791.Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **135**, C10 (*synth*)**C₅H₁₃BN₂O₂****B-00336****Cyanoborane diethanolamine**

(Cyano-C)dihydro[2,2'-(methylimino)bis[ethanol]-N]boron, 10Cl. Boranecarbonitrile, compd. with 2,2'-(methylimino)bis[ethanol](1:1)
 [75519-12-9]



M 143.980

Hall, I.J. *et al*, *J. Pharm. Sci.*, 1980, **69**, 1025 (*pharmacol*)**C₅H₁₃BO****B-00337****Diethylmethoxyborane**

Diethylborinic acid methyl ester, 10Cl, 9Cl, 8Cl.
 Methoxydiethylborane
 [7397-46-8]



M 99.967

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs.
 Bp 90°.

▷Pyrophoric

Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (*nmr*)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*nmr*)Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1975, 352 (*synth, pmr, ms*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1385 (*synth*)Paetzold, P. *et al*, *Z. Naturforsch., B*, 1980, **35**, 568.**C₅H₁₃BO₂****B-00338****Dimethoxypropylborane**

Propylboronic acid dimethyl ester, 10Cl. 1-Propaneboronic acid dimethyl ester. Propyldimethoxyborane. Dimethylpropaneboronate
 [2938-87-6]

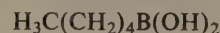


M 115.967

Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs.
 d₂₀ 0.833. Bp 102-3°, Bp₉₅ 45-56°. n_D²⁰ 1.3847.

Ger. Pat., 1 061 781, (1959); CA, **55**, 20960f (*synth*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1962, 827 (*synth, props*)Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1965, **35**, 1073.Costes, J.P. *et al*, *J. Organomet. Chem.*, 1979, **175**, 257 (*props, pmr, nmr*)**C₅H₁₃BO₂****B-00339****Pentyldihydroxyborane**

Pentyboronic acid, 10Cl, 9Cl. 1-Pentaneboronic acid, 8Cl.
 Amyldihydroxyborane. Dihydroxypentylborane
 [4737-50-2]



M 115.967

Inhibits cholinesterase, proteinase and lipase. Mod. air-sensitive cryst. (pet. ether). Mp 93-4°.

Laurent, J.P., C.R. *Hebd. Seances Acad. Sci.*, 1961, **253**, 1812 (*synth, props*)Niedenzu, K. *et al*, *J. Org. Chem.*, 1961, **26**, 3037 (*synth*)Antonov, V.K. *et al*, *Mol. Biol.*, 1970, **4**, 558.Jarv, J. *et al*, *Bioorg. Khim.*, 1978, **4**, 1364; CA, **90**, 2320m (*use*)**C₅H₁₃BS₂****B-00340****Bis(methylthio)propylborane**

Propyldithioboronic acid dimethyl ester, 10Cl.
 Propylbis(methylthio)borane
 [72334-76-0]



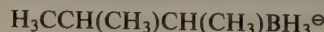
M 148.088

No phys. props. reported, but presumed to be air- and moisture-sensitive liq. Sol. nonhydroxylic solvs.

Costes, J.P. *et al*, *J. Organomet. Chem.*, 1979, **175**, 257 (*props, nmr, pmr*)**C₅H₁₄B[⊖]****B-00341**

(1,2-Dimethylpropyl)trihydroborate(1-), 10Cl

(3-Methyl-2-butyl)borohydride. Siamylborohydride



M 84.976 (ion)

Li salt: [76430-53-0].

C₅H₁₄BLi M 91.917

No phys. props. reported.

Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 2712, 4541 (*synth, nmr*)

C₅H₁₄BN B-00342**(3-Dimethylaminopropyl)borane**

[3-(Dimethylamino)propyl-C,N]dihydroboron, 10Cl. 3-Boryl-N,N-dimethylpropylamine. 1,1-Dimethyl-1,2-azaborolidine

[17141-43-4]



R = H

M 98.982

Exists in internally coordinated form. Colourless liq. d₂₅ 0.816. Bp₇₄₅ 185°, Bp₁₃ 72-4°.

Adams, R.M. *et al*, *Inorg. Chem.*, 1963, **2**, 640 (*ms*, *ir*, *synth*)

Polivka, Z. *et al*, *Collect. Czech. Chem. Commun.*, 1969, **34**, 3009 (*synth*, *ir*, *nmr*)

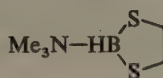
Polivka, Z. *et al*, *Collect. Czech. Chem. Commun.*, 1970, **35**, 1131.

Baboulene, M. *et al*, *Bull. Soc. Chim. Fr.*, 1980, 565 (*synth*, *ir*, *raman*)

C₅H₁₄BNS₂ B-00343**1,3,2-Dithiaborolane trimethylamine**

(N,N-Dimethylmethanamine)[1,2-ethanedithiolato(2-)-S,S']hydroboron, 10Cl. N,N-Dimethylmethanamine compd. with 1,3,2-dithiaborolane(1:1)

[13291-21-9]



M 163.102

White cryst., stable *in vacuo* at r.t. Reported solubility data contradictory. Mp 100-1°. Subl. undec.

Egan, B.Z. *et al*, *Inorg. Chem.*, 1964, **3**, 1024 (*synth*, *ir*)

Young, D.E. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 4390 (*pmr*)

Thaisrivongs, S. *et al*, *J. Org. Chem.*, 1977, **42**, 3243 (*synth*, *ir*, *pmr*)

C₅H₁₅BBrP B-00344**Bromodimethylborane trimethylphosphine**

Bromodimethyl(trimethylphosphine)boron, 10Cl. Trimethylphosphine compd. with bromodimethylborane(1:1). Dimethylbromoborane trimethylphosphine complex [69513-18-4]

Me₂BBr—PMe₃

M 196.861

White solid, stable at Mp. Mp 211-4°.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 1289 (*synth*, *pmr*)

Apel, J. *et al*, *Z. Anorg. Allg. Chem.*, 1979, **453**, 28 (*nmr*)

C₅H₁₅BN₂ B-00345**Bis(dimethylamino)methylborane, 8Cl**

Pentamethylboranediimine, 10Cl, 9Cl

[6914-63-2]

MeB(NMe₂)₂

M 113.997

Liq., sl. air- and moisture-sensitive. Sol. THF. d₂₀ 0.799. n_D²⁰ 1.4360.

Nöth, H. *et al*, *Z. Anorg. Allg. Chem.*, 1963, **322**, 297 (*synth*)

Goubeau, J. *et al*, *Z. Anorg. Allg. Chem.*, 1967, **352**, 285 (*raman*, *ir*)

Bock, H. *et al*, *Chem. Ber.*, 1971, **104**, 1687 (*pe*)

Fuss, W., *Z. Naturforsch. B*, 1974, **29**, 514 (*uv*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*nmr*)

Fussstetter, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (*nmr*)

C₅H₁₅BN₂O B-00346**Bis(dimethylamino)methoxyborane**

1-Methoxy-N,N,N',N'-tetramethylboranediimine, 10Cl

[7318-73-2]

MeOB(NMe₂)₂

M 129.996

Prob. liq., sensitive to moisture.

Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (*nmr*)

Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (*nmr*)

C₅H₁₅B₂N B-00347**N,N-Bis(dimethylboryl)methylamine**

N-(Dimethylboryl)-N,1,1-trimethylboranamine, 10Cl, 9Cl. (Methylimino)bis[dimethylborane], 8Cl

[19163-15-6]

Me₂BNMeBMe₂

M 110.800

Air- and moisture-sensitive liq. Bp₇₂₀ 103°.

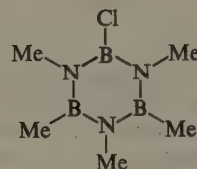
Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23; 1969, **16**, 357 (*nmr*)

Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089; 1977, **110**, 2790; 1980, **113**, 728 (*synth*, *nmr*)

C₅H₁₅B₃ClN₃ B-00348**2-Chloro-1,3,4,5,6-pentamethylborazine, 10Cl, 9Cl**

Pentamethyl-B-chloroborazine

[13058-05-4]



M 185.077

Colourless cryst. by subl. Mp 127-128.5°.

Wagner, R.I. *et al*, *Inorg. Chem.*, 1962, **1**, 93 (*synth*)

Melcher, L.A. *et al*, *Inorg. Chem.*, 1972, **11**, 1247 (*synth*, *ir*)

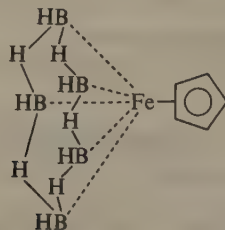
Adcock, J.L. *et al*, *Inorg. Chem.*, 1973, **12**, 788 (*pmr*)

Melcher, L.A. *et al*, *Inorg. Chem.*, 1973, **12**, 601 (*ms*)

Enterling, D. *et al*, *Z. Naturforsch. B*, 1978, **33**, 527 (*props*)

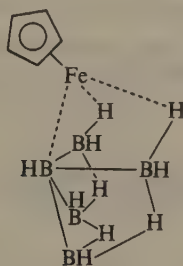
Meller, A. *et al*, *Chem. Ber.*, 1979, **112**, 1252 (*props*)

C₅H₁₅B₅Fe **B-00349**
 (η⁵-2,4-Cyclopentadien-1-yl)[η⁵-decahydropentaborato(1-)]-
 iron, 10Cl
 1-(η⁵-Cyclopentadienyl)-FeB₅H₁₀. Pentaboraferrocene
 [65188-99-0]



M 185.071
 Dark-violet air-sensitive solid.
 Weiss, R. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 8087; *Inorg. Chem.*, 1979, **18**, 3291 (synth, pmr, nmr, ms)

C₅H₁₅B₅Fe **B-00350**
 (η⁵-2,4-Cyclopentadien-1-yl)[η⁵-decahydropentaborato(1-)]-
 iron, 10Cl
 2-(η⁵-Cyclopentadienyl)-FeB₅H₁₀
 [71661-61-5]



M 185.071
 Air-sensitive violet cryst (hexane). Thermally isomerises to (η⁵-2,4-Cyclopentadien-1-yl)[η⁵-decahydropentaborato(1-)]iron, B-00349.
 Weiss, R. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 8087; *Inorg. Chem.*, 1979, **18**, 3291 (synth, pmr, nmr, ms)

C₅H₁₆BNO **B-00351**
 Borane N,N-dimethyl(2-methoxyethyl)amine
 Trihydro(2-methoxy-N,N-dimethylethanamine-N)boron, 10Cl. Borane 2-methoxy-N,N-dimethylethylamine
 [67036-07-1]



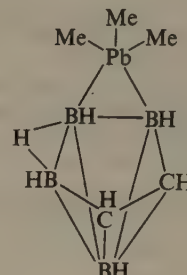
M 116.998
 Used in electrolysis bath for Au and Pd coating.
 Ger. Pat., 2 750 932, (1978); *CA*, **89**, 202734r (use)
 U.S.P., 4 080 381, (1978); *CA*, **89**, 23753z
 U.S.P., 4 142 902, (1979); *CA*, **91**, 25752p (use)
 Ger. Pat., 3 000 526, (1980); *CA*, **94**, 19420z

C₅H₁₆BNSi **B-00352**
 Dimethyl(trimethylsilylamino)borane
 1,1-Dimethyl-N-(trimethylsilyl)boranamine, 10Cl, 9Cl
 [51860-59-4]



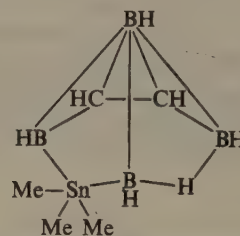
M 129.084
 Air- and moisture-sensitive.
 Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 518 (nmr)
 Barlos, K. *et al*, *J. Magn. Reson.*, 1978, **31**, 363.
 Fusstetter, H. *et al*, *Chem. Ber.*, 1978, **111**, 3596; 1980, **113**, 728 (props)
 Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (nmr)

C₅H₁₆B₄Pb **B-00353**
 2,3-μ-(Trimethylplumbyl)-4,5-dicarbahexaborane(8), 9Cl
 [38117-57-6]



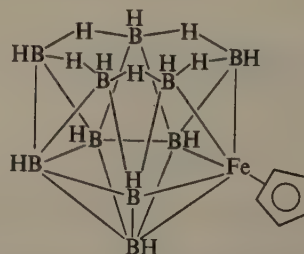
M 326.621
 Proposed struct. shown. Colourless liq. of low volatility.
 Unstable at r.t.
 Tabereaux, A. *et al*, *Inorg. Chem.*, 1973, **12**, 792 (synth, nmr, pmr, ir)

C₅H₁₆B₄Sn **B-00354**
 2,3-μ-(Trimethylstannyl)-4,5-dicarbahexaborane(8), 9Cl
 [38117-56-5]



M 238.111
 Colourless liq. Stable indefinitely at 120°, but dec. rapidly at 220°.
 Tabereaux, A. *et al*, *Inorg. Chem.*, 1973, **12**, 792 (synth, ir, pmr, nmr, ms)

C₅H₂₀B₁₀Fe **B-00355**
 (η⁵-2,4-Cyclopentadien-1-yl)[η⁵-pentadecahydrodecaborato(2-)]iron, 10Cl
 2-(η⁵-Cyclopentadienyl)-FeB₁₀H₁₅
 [71661-62-6]



M 244.160
 Yellow.

Weiss, R. *et al*, *Inorg. Chem.*, 1979, **18**, 3291 (*synth*, *pmr*, *nmr*, *ms*)

Poole, C.F. *et al*, *J. Chromatogr.*, 1979, **186**, 307 (*synth*, *use*)

C₆BCl₂F₅

B-00356

Dichloro(pentafluorophenyl)borane, 10Cl, 9Cl, 8Cl
Pentafluorophenyldichloroborane
[830-48-8]



M 248.774

Volatile liq., readily hydrol. even at –80°. Sol. dibutyl ether. Bp 155°. Thermal disproportionation occurs at 220°.

Brown, A.J.R. *et al*, *Proc. Chem. Soc.*, 1963, 200 (*nmr*)
Chambers, R.D. *et al*, *J. Chem. Soc.*, 1965, 3933 (*nmr*, *synth*)
Glanville, W.K. *et al*, *CA*, 1977, **86**, 121447k (*use*)
Paetzold, P., *Chem. Ber.*, 1979, **112**, 3811 (*use*)
Gronowitz, S. *et al*, *Chem. Scr.*, 1980, **15**, 135 (*use*)

C₆BF₉O₆

B-00357

Tris(trifluoroacetoxy)borane
Trifluoroacetic acid trianhydride with boric acid
(H₃BO₃), 10Cl, 9Cl. Boron tris(trifluoroacetate)
[350-70-9]



M 349.858

Deprotecting agent in amino acid and peptide synth.
Moisture-sensitive. Mp 88° dec.

Gerrard, W. *et al*, *J. Chem. Soc.*, 1958, 3648 (*synth*)
Pless, J. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1973, **12**, 147 (*synth*)
Olah, G.A. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 5481 (*nmr*)

C₆H₃BCrNO₅[–]

B-00358

Pentacarbonyl[(cyano-C)trihydroborato(1–)-N]chromate(1–), 9Cl



M 231.899 (ion)

Mp >170° dec.

Tetramethylammonium salt: [52138-78-0].

C₁₀H₁₅BCrN₂O₅ M 306.045

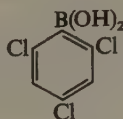
Yellow cryst.

King, R.B. *et al*, *J. Organomet. Chem.*, 1974, **65**, 71 (*synth*, *ir*, *nmr*)

C₆H₄BCl₃O₂

B-00359

Dihydroxy(2,4,6-trichlorophenyl)borane
(2,4,6-Trichlorophenyl)boronic acid, 10Cl. 2,4,6-Trichlorobenzeneboronic acid
[73852-18-3]



M 225.265

Derivs. used for trace analysis of physiological fluids.
Electron-capturing props. useful for selective analysis of bifunctional compds. Cryst. (hexane). Mp 54-5°.

C₆H₅BBr₂

B-00360

Dibromophenylborane, 10Cl, 9Cl, 8Cl
Dibromophenylborine. Phenyldibromoborane.
Phenyldibromoboron
[4151-77-3]



M 247.724

Synthetic intermed. Cryst. solid, stable under N₂ but sensitive to air and moisture. Mp 32-4° (25-8°). Bp₁₄ 89-91°.

Bujwid, Z.J. *et al*, *Chem. Ind. (London)*, 1959, 1091
Frenkin, E.I. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1960, 1507 (*synth*)
Muettterties, E.L., *J. Am. Chem. Soc.*, 1960, **82**, 4163 (*synth*)
Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **11**, 399 (*synth*, *nmr*)
Nahm, F.C., *J. Organomet. Chem.*, 1972, **35**, 9 (*ir*)
Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)

C₆H₅BCl₂

B-00361

Dichlorophenylborane, 10Cl, 9Cl
Phenylboron dichloride. Phenyldichloroborane
[873-51-8]



M 158.822

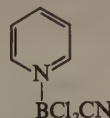
Fuming liq., sensitive to moisture. d 1.194. Mp 7°. Bp 175°.

Treichel, P.M. *et al*, *Inorg. Chem.*, 1971, **10**, 32 (*synth*)
Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*nmr*)
Barlos, K. *et al*, *Chem. Ber.*, 1977, **110**, 2774 (*nmr*)
Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1977, **132**, 29 (*nmr*)
Ramsey, B.G. *et al*, *J. Organomet. Chem.*, 1977, **141**, 257 (*uv*, *pmr*, *struct*)
Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)
Ramsey, B.G. *et al*, *J. Org. Chem.*, 1980, **45**, 1332 (*nmr*, *struct*)
Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 900.

C₆H₅BCl₂N₂

B-00362

Dichlorocyanoborane pyridine
Dichloro(cyano-C)(pyridine)boron, 10Cl. Dichloroborane carbonitrile pyridine. Pyridine dichlorocyanoborane
[67374-63-4]



M 186.835

White solid. Mp 106-8°.

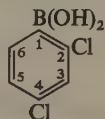
Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (*synth*, *ir*, *pmr*)

C₆H₅BCl₂O₂

B-00363

(2,4-Dichlorophenyl)dihydroxyborane*(2,4-Dichlorophenyl)boronic acid*, 10Cl. 2,4-Dichlorobenzeneboronic acid

[68716-47-2]



M 190.820

Used as derivatisation reagent in gas chromatog. of bifunctional org. compds. Cryst. (toluene). Mp 242-5°. Commercially available.

Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33 (*use, synth, props*)Poole, C.F. *et al*, *Analyst*, 1979, **104**, 82 (*props*)Poole, C.F. *et al*, *J. Chromatogr.*, 1979, **186**, 307 (*props*)Singhawangcha, S. *et al*, *J. High Resolut. Chromatogr.**Chromatogr. Commun.*, 1979, **2**, 77 (*props, use*)**C₆H₅BCl₂O₂**

B-00364

(2,6-Dichlorophenyl)dihydroxyborane*(2,6-Dichlorophenyl)boronic acid*, 10Cl. 2,6-Dichlorobenzeneboronic acid

[73852-17-2]

M 190.820

Used as derivatisation reagent for gas chromatog. of bifunctional compds. Cryst. (MeOH). Mp 149-51°.

Poole, C.F. *et al*, *J. Chromatogr.*, 1979, **186**, 307 (*synth, props, use*)**C₆H₅BCl₂O₂**

B-00365

(3,5-Dichlorophenyl)dihydroxyborane*(3,5-Dichlorophenyl)boronic acid*, 10Cl. 3,5-Dichlorobenzeneboronic acid

[67492-50-6]

M 190.820

Used as derivatising agent in gas chromatog. of bifunctional org. compds. Cryst. (toluene). Mp 310-5°.

Poole, C.F. *et al*, *Chromatographia*, 1978, **11**, 347 (*use*)Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33 (*synth, props, use*)**C₆H₅BCl₃^o**

B-00366

Trichlorophenylborate(1-), 10Cl*Phenyltrichloroborate*PhBCl₃^o

M 194.275 (ion)

Tetraethylammonium salt: [23273-29-2]. N,N,N-Triethylethanaminium trichlorophenylborate(1-), 10Cl.C₁₄H₂₅BCl₃N M 324.527

Electrolyte. White solid. Mp 99-103° dec.

Tetrabutylammonium salt: [61132-55-6]. N,N,N-Tri-*n*-butyl-1-*n*-butanaminium trichlorophenylborate(1-), 10Cl.C₂₂H₄₁BCl₃N M 436.742

Used in formn. of B-N polymers.

Ahmed, I.Y., *Inorg. Chem.*, 1969, **8**, 1411 (*synth, props, use*)Sheikh, S.U., *Bull. Chem. Soc. Jpn.*, 1976, **49**, 2879 (*props*)Sheikh, S.U., *Therm. Anal. [Proc. Int. Conf.]*, 5th, 1977, 509; *CA*, **90**, 71519v.Sheikh, S.U., *J. Therm. Anal.*, 1980, **18**, 299 (*synth*)Sheikh, S.U., *Pak. J. Sci. Ind. Res.*, 1980, **23**, 21; *CA*, **94**, 113678m.**C₆H₅BF₂**

B-00367

Difluorophenylborane, 10Cl, 9Cl, 8Cl*Difluorophenylborine. Phenyldifluoroborane*

[368-98-9]

PhBF₂

M 125.912

Air- and moisture-sensitive liq. d₂₅ 1.087. Mp -36.2°.Bp₇₄₇ 97.8°. n_D²⁵ 1.4441.Torrsell, K., *Acta Chem. Scand.*, 1954, **8**, 1779 (*props*)McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5185 (*synth*)Holliday, A.K. *et al*, *J. Chem. Soc.*, 1964, 2731 (*synth*)Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)Paetzold, P. *et al*, *Chem. Ber.*, 1980, **113**, 3724 (*use*)**C₆H₅BF₂O**

B-00368

Difluorophenoxyborane, 10Cl, 9Cl

[14117-84-1]

PhOBF₂

M 141.912

Catalyst for polymerisation reactions. Sensitive to moisture.

Ger. Pat., 1 217 066, (1966); *CA*, **65**, PC13885d (*use*)*B.P.*, 2 030 993, (1980); *CA*, **93**, P221317f (*use*)*Fr. Pat.*, 2 438 665, (1980); *CA*, **93**, P240977n (*use*)**C₆H₅BI₂**

B-00369

Diiodophenylborane, 10Cl, 9Cl*Phenyl-diiodoborane. Diiodophenylborine*

[17381-60-1]

PhBI₂

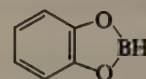
M 341.725

Prepd. from BI₃ and iodobenzene or tetraphenylstannane.Air- and moisture-sensitive liq. Sol. CH₂Cl₂. Bp_{0.5} 70-2°. ¹¹B nmr δ -47.8 ppm.Nöth, H. *et al*, *J. Organomet. Chem.*, 1969, **20**, 35 (*synth*)Siebert, W. *et al*, *J. Organomet. Chem.*, 1970, **25**, 305 (*synth*)Nahm, F.C. *et al*, *J. Organomet. Chem.*, 1972, **35**, 9 (*ir*)Renk, T. *et al*, *J. Organomet. Chem.*, 1976, **120**, 1 (*use*)Haubold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1978, **446**, 45 (*raman*)Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)**C₆H₅BO₂**

B-00370

1,3,2-Benzodioxaborole, 10Cl, 9Cl*Catecholborane*

[274-07-7]



M 119.914

Used in hydroboration reactions; reducing agent. d₂₀1.27. Mp 12°. Bp₁₅₆ 88°, Bp₈₀ 66°. Moisture sensitive.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 5249 (*synth, ir, ms*)Brown, H.C., *Organic Syntheses via Boranes*, 1975, Wiley, N.Y., 63.Kabalka, G.W., *Org. Prep. Proced. Int.*, 1977, **9**, 131 (*rev*)Alves, A.C.P. *et al*, *J. Mol. Spectrosc.*, 1979, **77**, 124 (*uv, struct*)

Org. Synth., 1980, **59**, 42 (use)

Goetze, R. *et al*, *Chem. Ber.*, 1981, **114**, 1884 (nmr)

Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, **8**, 79.

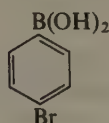
C₆H₆BBrO₂

B-00371

(4-Bromophenyl)dihydroxyborane

4-Bromophenylboronic acid, 10Cl, 9Cl. p-Bromophenylboronic acid. 4-Bromobenzeneboronic acid

[5467-74-3]



M 200.826

Useful as a derivatizing agent for bifunctional mols., partic. for glc. Needles (EtOH). Sol. hot H₂O. Mp 191°, 286-9°, 312-5°. pK_a 9.14 (25°, 25% EtOH aq.).

▷CY8650000.

Bean, F. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 4415 (synth)

Zvonkova, Z.V., *Kristallografiya*, 1957, **2**, 408; *CA*, **52**, 3431 (struct)

Nöth, H. *et al*, *NMR Spectroscopy of Boron Compounds (NMR Basic Principles and Progress, Part 14)*, 1978, Springer (nmr)

Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33 (use)

Poole, C.F. *et al*, *J. Chromatogr.*, 1979, **186**, 307 (use)

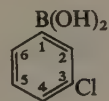
C₆H₆BClO₂

B-00372

(3-Chlorophenyl)dihydroxyborane

(3-Chlorophenyl)boronic acid, 10Cl. m-Chlorobenzeneboronic acid. m-Chlorophenylboric acid

[63503-60-6]



M 156.375

Cryst. (C₆H₆ or H₂O). Mp 183°. pK_a 8.9.

Bettman, B. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 1865.

Branch, G.E.K. *et al*, *J. Am. Chem. Soc.*, 1934, **56**, 937.

Hanai, K. *J. Biochem. (Tokyo)*, 1977, **81**, 1273

Kajimoto, O. *et al*, *J. Phys. Chem.*, 1977, **81**, 1712 (pmr)

Nakatani, H. *et al*, *Biochim. Biophys. Acta*, 1978, **525**, 423.

C₆H₆BClO₂

B-00373

(4-Chlorophenyl)dihydroxyborane

(4-Chlorophenyl)boronic acid, 10Cl, 9Cl. p-Chlorobenzeneboronic acid, 8Cl

[1679-18-1]

M 156.375

Used as sterilant for insect control. Has antispasmodic props. Sludge inhibitor for fuels. Used for penetration of brain tumours. Solid.

▷Toxic. CY8950000.

Soloway, A.H., *Science*, 1958, **128**, 1572 (use)

Ploquin, J., *Bull. Trav. Soc. Pharm. Bordeaux*, 1962, **101**, 229 (struct)

Beachell, H.C. *et al*, *Inorg. Chem.*, 1964, **3**, 1028 (synth, nmr)

Gout, R. *et al*, *Bull. Trav. Soc. Pharm. Lyon*, 1965, **9**, 236 (tox)

Breuer, S.W. *et al*, *Tetrahedron Lett.*, 1974, 3719 (synth)

Thorpe, F.G. *et al*, *J. Organomet. Chem.*, 1978, **145**, C26.

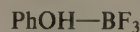
C₆H₆BF₃O

B-00374

Trifluoroborane phenol

Trifluoro(phenol)boron, 10Cl. Phenol compd. with trifluoroborane (1:1), 9Cl. Phenol compd. with boron fluoride (BF₃) (1:1), 8Cl

[372-44-1]



M 161.918

Moisture sensitive. Catalyst for many types of reactions.

Muetterties, E.L., *J. Am. Chem. Soc.*, 1958, **80**, 4526.

Palko, A.A. *et al*, *J. Chem. Phys.*, 1967, **47**, 2561.

Kohichi, Y. *et al*, *J. Polym. Sci., Polym. Lett. Ed.*, 1976, **14**, 517.

Ger. Pat., 2 834 126, (1979); *CA*, **90**, 170446a (use)

Chmiel-Pela, J., *CA*, 1981, **95**, 189369 (rev)

C₆H₆BFeNO₄

B-00375

Tetracarbonyl[N,N-dimethylboranaminato(2-)-B]iron, 9Cl

Tetracarbonyl[(dimethylamino)borylene]iron, 8Cl. Dimethylaminoborinetetracarbonyliron

[31388-53-1]



M 222.775

Volatile, colourless cryst., dec. at r.t. Mp -25°. Forms brown oligomer.

Schmid, G. *et al*, *Inorg. Chim. Acta*, 1970, **4**, 423 (synth, ir)

Schmid, G., *Angew. Chem., Int. Ed. Engl.*, 1972, **11**, 1034.

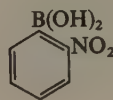
C₆H₆BNO₄

B-00376

Dihydroxy(2-nitrophenyl)borane

(2-Nitrophenyl)boronic acid, 10Cl, 9Cl. o-Nitrobenzeneboronic acid, 8Cl

[5570-19-4]



M 166.928

Chemosterilant for insects; enzyme inhibitor. Yellow needles. Sol. EtOH, Et₂O, mod. sol. H₂O. Mp 147.5° (140-2°).

Seaman, W. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 714 (synth)

Kuivila, H.G. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5659 (props, use)

Verbit, L. *et al*, *Tetrahedron Lett.*, 1966, 1053 (synth)

Settepani, J.A. *et al*, *J. Med. Chem.*, 1970, **13**, 128 (use)

Carna, J., *F.E.B.S. Lett.*, 1980, **119**, 343 (use)

C₆H₆BNO₄

B-00377

Dihydroxy(3-nitrophenyl)borane

(3-Nitrophenyl)boronic acid, 10Cl. m-Nitrobenzeneboronic acid

[13331-27-6]

M 166.928

Used in detection of bifunctional compds. by glc; enzyme inhibitor and chemosterilant for insects. Yellow cryst. (H₂O). Mod. sol. hot H₂O, sol. EtOH, Et₂O. Mp 275°, 285°, 319°.

▷CY8980000.

Torsell, K., *CA*, 1958, **52**, 1455f (synth)

Skowronska-Serafinowa, B. *et al*, *Rocz. Chem.*, 1961, **35**, 937 (ir)

Ramsey, B.G., *J. Phys. Chem.*, 1970, **74**, 2464 (preps)

Barker, S.A. *et al*, *Carbohydr. Res.*, 1973, **26**, 33 (use, props)

Brown, B.J. *et al*, *Aust. J. Chem.*, 1976, **29**, 941 (*props*)
 Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33 (*use*)

C₆H₇B**B-00378**

Phenylborane, 10Cl, 9Cl, 8Cl
 [45481-30-9]



M 89.931

Exists as B-H bridged dimer in uncomplexed state. Synthetic intermedi., generated *in situ*. Air- and moisture-sensitive. Sol. THF.

*Me*₃*N* complex: [1194-24-7]. N,N-Dimethylmethanamine phenylborane.

C₉H₁₆BN M 149.042Cryst. (Et₂O). Sol. C₆H₆. Mp 68-9°.

*Et*₃*N* complex: [15068-65-2]. N,N-Diethylethanamine phenylborane.

C₁₂H₂₂BN M 191.123Sol. C₆H₆.

Wilhelm, K. *et al*, *Z. Anorg. Allg. Chem.*, 1963, **325**, 225 (*deriv*)

Faulks, J.N.G. *et al*, *J. Inorg. Nucl. Chem.*, 1967, **29**, 329 (*nmr*, *deriv*)

Miller, J.J. *et al*, *Inorg. Chem.*, 1970, **4**, 69 (*deriv*, *synth*)

Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 350 (*deriv*, *props*)

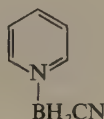
McCormick, C.L. *et al*, *J. Org. Chem.*, 1976, **41**, 2803 (*deriv*)

Greenberg, A. *et al*, *Tetrahedron*, 1979, **35**, 2623 (*struct*)

C₆H₇BN₂**B-00379****Cyanoborane pyridine**

(Cyano-C)dihydro(pyridine)boron, 10Cl. Boranecarbonitrile, compd. with pyridine (1:1)

[66632-43-7]



M 117.945

Shows anticholesteraeic and antihypolipidaemic activity. White cryst. Mp 34-5°.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (*synth*, *nmr*, *ir*)

Wisian-Nielsen, P. *et al*, *Inorg. Chem.*, 1978, **17**, 2327 (*synth*, *pmr*, *ir*)

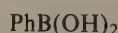
Spielvogel, B.F. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **41**, 1223 (*props*)

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1980, **69**, 1025; 1981, **70**, 339 (*pharmacol*)

C₆H₇BO₂**B-00380****Phenyldihydroxyborane**

Phenylboronic acid, 10Cl, 9Cl. Phenylboric acid. Benzeneboronic acid. Dihydroxy(phenyl)borane

[98-80-6]



M 121.930

Used as a derivatizing agent for bifunctional molecules, esp. for glc. Needles (H₂O). Sol. MeOH, EtOH, spar. sol. H₂O, Et₂O. Mp 216°. pK_a 8.86 (25°, H₂O). Forms anhydride below Mp.

▷CY8575000.

Morlyan, N.M. *et al*, *CA*, 1972, **76**, 14619 (*synth*)

Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1977, **132**, 29 (*nmr*)

Rettig, S.J. *et al*, *Can. J. Chem.*, 1977, **55**, 3071 (*struct*)
 Shapiro, B.L. *et al*, *J. Phys. Chem. Ref. Data*, 1977, **6**, 919 (*pmr*)

Nöth, H. *et al*, *NMR Spectroscopy of Boron Compounds (NMR Basic Principles and Progress, Part 14)*, 1978, Springer (*nmr*)

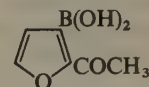
Bullen, N.P. *et al*, *J. Organomet. Chem.*, 1980, **195**, 147 (*synth*)

Ramsey, B.G. *et al*, *J. Org. Chem.*, 1980, **45**, 1322 (*nmr*, *struct*)

C₆H₇BO₄**B-00381****(2-Acetyl-3-furanyl)dihydroxyborane**

(2-Acetyl-3-furanyl)boronic acid, 10Cl, 9Cl

[49777-66-4]



M 153.929

Yellow cryst. (EtOH aq.). Mp 150°.

Ger. Pat., 2 264 363, (1973); *CA*, **79**, 92369j

Ger. Pat., 2 248 690, (1973); *CA*, **79**, 92371d

Florentin, D. *et al*, *J. Heterocycl. Chem.*, 1976, **13**, 1265.

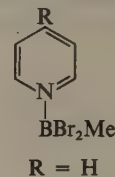
Florentin, D. *et al*, *Bull. Soc. Chim. Fr.*, 1976, 1999 (*synth*)

Florentin, D. *et al*, *J. Chem. Res. (S)*, 1977, 158.

C₆H₈BBr₂N**B-00382****Dibromomethylborane pyridine**

Dibromomethyl(pyridine)boron, 10Cl. Methyl dibromoborane pyridine

[69513-16-2]



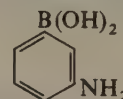
M 264.754

Solid. Mp 120-3° dec.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 1289 (*synth*, *nmr*, *ir*)

C₆H₈BNO₂**B-00383****(3-Aminophenyl)dihydroxyborane**

3-Aminophenylboronic acid, 10Cl, 9Cl. m-Aminophenylboronic acid. 3-Aminobenzenboronic acid



M 136.945

Used in affinity chromatogr. of biologically important mols. Hexagonal plates (H₂O). Sol. H₂O, EtOH, spar. sol. Et₂O. Mp 176°. pK_{a1} 4.47, pK_{a2} 8.81.

B₂H₂SO₄: Cryst. (MeOH).

Seaman, W. *et al*, *J. Am. Chem. Soc.*, 1931, **53**, 711.

Bean, F.R. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 4415.

Singhal, R.P. *et al*, *Anal. Biochem.*, 1980, **109**, 1 (*use*)

Ger. Pat., 2 933, 832, (1981); *CA*, **94**, 205033a (*use*)

Wielckens, K. *et al*, *Eur. J. Biochem.*, 1981, **117**, 69 (*use*)

C₆H₈BNO₂

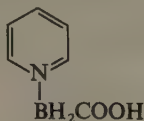
B-00384

Pyridine carboxyborane

Boranecarboxylic acid compd. with pyridine(1:1), 10Cl.

Boranecarboxylic acid pyridine

[72695-27-3]



M 136.945

Prepd. from C₆H₅N.BH₂CN. Shows anticholesteraeic and antihypolipidaemic activity. Air-sensitive, white crst. (H₂O). Sol. CHCl₃. Mp 115-6°.

Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, 3, 695 (rev)

Spielvogel, B.F. *et al*, *J. Inorg. Nucl. Chem.*, 1979, 41, 1223 (synth)

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1980, 69, 1025; 1981, 70, 339 (pharmacol)

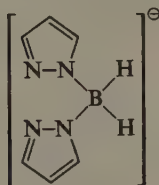
C₆H₈BN⁺

B-00385

Dihydrobis(1H-pyrazolato-N')borate(1-), 10Cl, 9Cl

Dihydrobis(1-pyrazolyl)borate

[46147-74-4]



M 146.966 (ion)

Used in formn. of metal complexes.

K salt: [18583-59-0].

C₆H₈BKN M 144.044Cryst. (anisole). Sol. H₂O. Mp 171-2°.Free acid: [18583-65-8]. Mp 128-9°. Evolves H₂ at Mp.Trofimenko, S., *J. Am. Chem. Soc.*, 1967, 89, 3170 (synth)

Inorg. Synth., 1970, 12, 100 (synth)

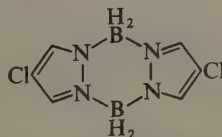
Trofimenko, S., *Chem. Rev.*, 1972, 72, 497 (rev)McCurdy, W.H., *Inorg. Chem.*, 1975, 14, 1939 (pmr)C₆H₈B₂Cl₂N₄

B-00386

Bis(4-chloro-1-pyrazolylborane)

Bis[μ-(4-chloro-1H-pyrazolato-N¹:N²)]tetrahydrodi-boron, 10Cl, 9Cl. 2,6-Dichloro-4H,4H,8H,8H-7a,8a-diaza-3a,4a-diazonia-4,8-diborata-s-indacene, 8Cl

[18601-55-3]



M 228.682

Cryst. (heptanē). Mp 119-20°.

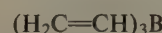
Trofimenko, S., *J. Am. Chem. Soc.*, 1967, 89, 3165 (synth, pmr)May, C.E. *et al*, *Z. Naturforsch.*, B, 1976, 31, 1662 (ms)Hodgkins, T.G. *et al*, *Inorg. Chem.*, 1981, 20, 2097.C₆H₉B

B-00387

Trivinylborane

Triethenylborane, 10Cl, 9Cl, 8Cl

[7217-01-8]



M 91.947

Prepd. from BCl₃ and tetravinylplumbane. Synthetic intermed. Air- and moisture-sensitive gas. Sol. non-hydroxylic solvs. V.p. 34mm at 0°, 80mm at 22°.

Holliday, A.K. *et al*, *J. Organomet. Chem.*, 1967, 10, 295 (synth)

Odom, J.D. *et al*, *Inorg. Chem.*, 1974, 13, 170 (spectra)

Hall, L.W. *et al*, *Diss. Abstr. Int. B*, 1975, 36, 2794 (props)

Hall, L.W. *et al*, *J. Am. Chem. Soc.*, 1975, 97, 4527 (cmr)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, 109, 1075 (nmr)

Odom, J.D. *et al*, *J. Organomet. Chem.*, 1980, 201, 351 (use)

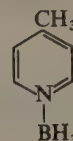
C₆H₁₀BN

B-00388

Borane 4-methylpyridine

Trihydro(4-methylpyridine)boron, 10Cl. 4-Methylpyridine compd. with borane(1:1), 9Cl. 4-Picoline compd. with BH₃

[3999-39-1]



M 106.962

Used in photographic direct-positive emulsions. Shows antinflammatory activity.

Bigot, J.A. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1957, 76, 996 (synth)

Brey, W.S. *et al*, *Adv. Chem. Ser.*, 1964, 42, 100 (nmr)

Hoffmann, R., *J. Chem. Phys.*, 1964, 40, 2474 (struct)

Mathur, M.A. *et al*, *Inorg. Chem.*, 1980, 19, 887.

U.S.P., 4 312 989, (1982); CA, 97, 85322g (use)

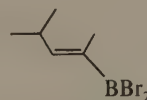
C₆H₁₁BBr₂

B-00389

Dibromo(1,3-dimethyl-1-butenyl)borane

4-Methyl-2-penten-2-yl dibromoborane

M 253.771



(Z)-form [72228-62-7]

Me₂S complex: Dibromo(1,3-dimethyl-1-butenyl)[thio-bis(methane)]boron, 10Cl.

C₈H₁₇BBr₂S M 315.900

Air- and moisture-sensitive solid. Mp 57-8°. Bp_{0.08} 56-8°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, 45, 389 (synth, pmr, nmr)

C₆H₁₁BBr₂

B-00390

Dibromo(3,3-dimethyl-1-butenyl)borane

3,3-Dimethyl-1-buten-1-yl dibromoborane



M 253.771

(E)-form

Me₂S complex: Dibromo(3,3-dimethyl-1-butenyl)[thio-bis(methane)]boron, 10Cl.

C₈H₁₇BBr₂S M 315.900

Air- and moisture-sensitive crst. (CHCl₃/hexane).

Mp 95-96.5°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, 45, 389 (synth, nmr)

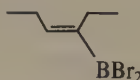
C₆H₁₁BBr₂

B-00391

Dibromo(1-ethyl-1-butenyl)borane

3-Hexen-3-ylidibromoborane. Dibromo(3-hexen-3-yl)-borane

M 253.771



(Z)-form

*Me*₂S complex: Dibromo(1-ethyl-1-butenyl)[thiobis[methane]]boron, 10Cl.C₈H₁₇BBr₂S M 315.900Air- and moisture-sensitive liq. Mp 5-8°. Bp_{0.5} 53-4°.Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 389 (*synth*, *nmr*)C₆H₁₁BBr₂

B-00392

Dibromo-1-hexenylborane, 10Cl

1-Hexenyldibromoborane



M 253.771

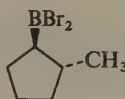
(E)-form [72228-55-8]

Prepd. *in situ* as the *Me*₂S adduct by hydroboration of 1-hexyne with Br₂BH-S*Me*₂. Synthetic intermed.*Me*₂S adduct: [72228-56-9].C₈H₁₇BBr₂S M 315.900Clear oil, sensitive to air and moisture. Sol. CHCl₃.Bp_{0.12} 59-60°. Slowly dec. under N₂ at 25°.Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 389 (*synth*, *use*)C₆H₁₁BBr₂

B-00393

Dibromo(2-methylcyclopentyl)borane

2-Methylcyclopentylidibromoborane



M 253.771

(1*RS*,2*SR*)-form

(±)-trans-form

*Me*₂S complex: [72205-99-3]. Dibromo(2-methylcyclopentyl)[thiobis[methane]]boron, 10Cl.C₈H₁₇BBr₂S M 315.900

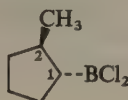
Synthetic intermediate. Air- and moisture-sensitive liq.

Bp_{0.5} 68-9°.Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 384 (*synth*)C₆H₁₁BCl₂

B-00394

2-Methylcyclopentylidichloroborane

Dichloro(2-methylcyclopentyl)boron



M 164.869

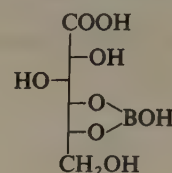
(1*RS*,2*SR*)-form

(±)-trans-form

*Me*₂S complex: [72205-95-9]. Prepd. by hydroboration of 1-methylcyclopentene with BHCl₂-S*Me*₂. Air- and moisture-sensitive liq.Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 384 (*synth*)C₆H₁₁BO₈

B-00395

Borogluconic acid

D-Gluconic acid cyclic 4,5-ester with boric acid (H₃BO₃), 10Cl, 9Cl

M 221.958

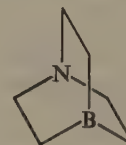
Ca salt: [5743-34-0]. Used to treat hypocalcemic states in cattle (bovine milk fever). Sol. H₂O. Dec. on heating.*Na salt*: [62185-81-3]. Corrosion inhibitor.Dryerre, H. *et al*, *Vet. Rec.*, 1935, **15**, 456; *CA* **29**, 7472 (*synth*)Macpherson, H.T. *et al*, *Biochem. J.*, 1938, **32**, 76 (*struct*)*Merck Index*, 9th Ed., No. 1644.Mullen, P.A., *Vet. Rec.*, 1975, **97**, 87 (*use*)Gyrd-Hansen, N. *et al*, *J. Vet. Pharmacol. Ther.*, 1981, **4**, 15 (*use*)C₆H₁₂BN

B-00396

1-Aza-4-borabicyclo[2.2.2]octane

(Nitrilotri-2,1-ethanediyl)boron, 10Cl

[61061-78-7]



M 108.978

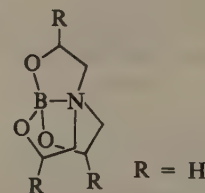
Paddon-Row, M.N. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 427 (*struct*)Gregory, A.R. *et al*, *Aust. J. Chem.*, 1977, **30**, 473 (*struct*)C₆H₁₂BNO₃

B-00397

[[2,2',2''-Nitrilotris[ethanolato]](3-)-N,O,O',O'']boron, 10Cl, 9Cl

2,8,9-Trioxa-5-aza-1-borabicyclo[3.3.3]undecane, 10Cl, 9Cl. [2,2',2''-Nitrilotriethanolato(3-)]boron, 8Cl. 2,2',2'',2''-Nitrilotriethanol cyclic borate. 2,2',2''-Nitrilotriethylylborate, 8Cl. Triethanolamine borate

[15277-97-1]



M 156.976

Used in colour reagent test strip for urine anal. Reagent for ensuring monoalkylation of ketones, curing agent for epoxy resins. Cryst. (Py). Sol. Py, MeCN, H₂O, alcohols, AcOH, PhNO₂, insol. THF, C₆H₆, CCl₄. Mp 236.5-237.5°.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 2808 (*synth*)Taira, Z. *et al*, *Inorg. Nucl. Chem. Lett.*, 1971, **7**, 509 (*struct*)*Aldrich Library of IR Spectra*, 1975, 2nd Ed., 1326D (*ir*)Mazheika, I. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 2728 (*ms*)Rathke, M.W. *et al*, *Synth. Commun.*, 1978, **8**, 9 (*synth*, *use*)Zeldin, M. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 597 (*pmr*)

Shatz, V.D. *et al*, *J. Chromatogr.*, 1980, **200**, 105 (*chromatog*)
Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, **8**, 500.

C₆H₁₂BN₃ **B-00398**

Cyanoborane 3-(dimethylamino)propanenitrile
(Cyano-C)[3-(dimethylamino)propanenitrile-N³]dihydroboron, 10Cl. Boranecarbonitrile, compd. with 3-(dimethylamino)propanenitrile(1:1)
[72695-25-1]



M 136.991

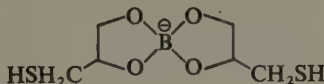
Exhibits anticholesteraeic and antihypolipidaemic activity. Oil obt. by evapn.; solidifies on standing. Sol. CHCl₃. Mp 42-3°.

Spielvogel, B.F. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **41**, 1223 (*synth, pmr, ir*)

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1980, **69**, 1025; 1981, **70**, 339 (*pharmacol*)

C₆H₁₂BO₄S₂[⊖] **B-00399**

Bis[3-mercapto-1,2-propanediolato(2-)-O,O']borate(1-), 10Cl



M 223.088 (ion)

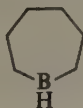
Octadecylammonium salt: [66035-11-8]. Hydrogen bis[3-mercapto-1,2-propanediolato(2-)-O,O']borate(1-) compd. with 1-octadecanamine (1:1), 10Cl. C₂₄H₅₂BNO₄S₂ M 493.609

Lubricating oil antiwear additive.

Baldwin, B.A., *Wear*, 1977, **45**, 345; *CA*, **88**, 123498t (*use*)
U.S.P., 4 115 286, (1978); *CA*, **90**, 41188u (*use*)

C₆H₁₃B **B-00400**

Borepane, 10Cl, 9Cl
Boracycloheptane
[4480-56-2]



M 95.979

Dimeric; not isol. in pure state; characterised as *B*-methoxy deriv. No phys. props. reported. Mod. sol. THF.

B-methoxy: [5747-29-5]. 1-Methoxyborepane.

C₇H₁₅BO M 126.005

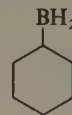
Sol. THF. Bp₃₂ 74-8°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 3561 (*synth*)
Burke, P.L. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 3654 (*synth, props, ir, glc*)

Negishi, E. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6757 (*deriv, ir, pmr, synth*)

C₆H₁₃B
Cyclohexylborane

B-00401



M 95.979

Tetramethylethylenediamine complex (2:1): [69319-84-2]. Dicyclohexyltetrahydro[μ-(N,N,N',N'-tetramethyl-1,2-ethanediamine-N:N')]diboron, 10Cl.

C₁₈H₄₂B₂N₂ M 308.163

Used for long-term storage of cyclohexylborane. Air-stable solid. Mp 100-1°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 465 (*synth*)

C₆H₁₃B **B-00402**

1-Ethylborolane, 10Cl

[75126-77-1]

As Borolane, B-00227 with

R = Et

M 95.979

Air-sensitive liq. Sol. nonhydroxylic solvs.

▷Prob. spont. inflammable

Wrackmeyer, B. *et al*, *Z. Naturforsch., B*, 1980, **35**, 439 (*nmr*)

C₆H₁₃B **B-00403**

1-Methylborinane, 10Cl

1-Methyl-1-boracyclohexane

[75126-76-0]

As Borinane, B-00327 with

R = Me

M 95.979

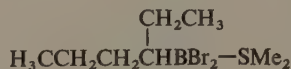
Characterised spectroscopically. Sensitive to air. Sol. THF and CHCl₃.

Wrackmeyer, B., *Z. Naturforsch., B*, 1980, **35**, 439 (*nmr*)

C₆H₁₃BBr₂ **B-00404**

Dibromo(1-ethylbutyl)borane

Dibromo(3-hexyl)borane. 3-Hexyldibromoborane



M 255.787

Me₂S complex: [64770-06-5]. Dibromo(1-ethylbutyl)-[thiobis[methane]]boron, 10Cl.

C₈H₁₉BBr₂S M 317.916

Prepared *in situ* from 3-hexene and HBBBr₂—SMe₂.

Synthetic intermediate. Air- and moisture-sensitive liq. Bp_{2.2} 73-5°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 7097 (*synth*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 384.

C₆H₁₃BBr₂ **B-00405**

Dibromohexylborane, 10Cl

Hexyldibromoborane

[64770-03-2]



M 255.787

Generally prepd. *in situ* by hydroboration of 1-hexene with dibromoborane. Can be isol. as its dimethylsulfide complex. Useful source of alkylidihydroxyboranes or alkyl dialkoxyboranes *via* hydrolysis or alcoholysis. Air- and moisture-sensitive liq. Bp_{0.9} 56-8°.

Me₂S adduct: [64770-04-3].

C₈H₁₉BBr₂S M 317.916

Oil, air- and moisture-sensitive. Bp₁ 97-100°. Slowly dec. under N₂ at 25°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 7097 (*synth*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 384 (*synth*, *use*)

C₆H₁₃BBr₂

B-00406

Dibromo(2-methylpentyl)borane

2-Methyl-1-pentyl dibromoborane



M 255.787

Me₂S complex: [72205-97-1]. Dibromo(2-methylpentyl)-[thiobis[methane]]boron, 10Cl.

C₈H₁₉BBr₂S M 317.916

Air- and moisture-sensitive liq. Bp_{1,6} 2-5°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 384 (*synth*)

C₆H₁₃BF₂

B-00407

Difluorohexylborane, 10Cl, 9Cl, 8Cl

Hexyldifluoroborane Difluorohexylborine

[592-71-2]



M 133.976

Prepd. from hexyldihydroxyborane and BF₃. Air- and moisture-sensitive oil. d₂₅ 0.859. Bp₇₄₄ 91.9-92°.

McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 4253 (*synth*)

Brother, C.C. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5188 (*props*)

Davies, A.G. *et al*, *Chem. Ind. (London)*, 1957, 1622 (*use*)

McCusker, P.A., *CA*, 1958, **52**, P11120b (*synth*)

Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1959, **29**, 3443 (*synth*)

Anosov, V.I. *et al*, *CA*, 1980, **93**, P221317f (*use*)

C₆H₁₃BN₂O

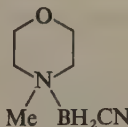
B-00408

Cyanoborane 4-methylmorpholine

(Cyano-C)dihydro(4-methylmorpholine-N⁴)boron, 10Cl.

Borane carbonitrile, compd. with 4-methylmorpholine(1:1), 9Cl

[51329-60-3]



M 139.992

Shows inhibition of tumour growth in mice, but is v. toxic. White cryst. solid (H₂O). Mp 34-5°.

▷ Toxic, LD₅₀ 23 mg/kg

Weidig, C. *et al*, *Inorg. Chem.*, 1974, **13**, 1763 (*synth*, *nmr*, *ir*)

Spielvogel, B.F. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **41**, 1223 (*synth*, *nmr*, *ir*)

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1981, **70**, 339 (*pharmacol*)

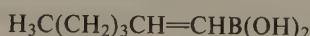
C₆H₁₃BO₂

B-00409

1-Hexenyldihydroxyborane

1-Hexenylboronic acid, 10Cl, 9Cl. 1-Hexene-1-boronic acid

[78461-60-6]



M 127.978

(E)-form [42599-18-8]

Cryst.

(Z)-form [54354-55-1]

Characterised spectroscopically.

Dieck, H.A. *et al*, *J. Org. Chem.*, 1975, **40**, 1083.

Raucher, S. *et al*, *J. Org. Chem.*, 1978, **43**, 4885.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 389 (*synth*)

Kabalka, G.W. *et al*, *Synth. Commun.*, 1981, **11**, 247.

Kabalka, G.W. *et al*, *Heterocycles*, 1982, **18**, 157.

Kabalka, G.W. *et al*, *J. Labelled Compd. Radiopharm.*, 1982, **19**, 795.

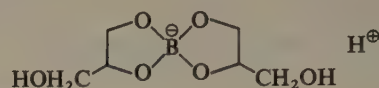
C₆H₁₃BO₆

B-00410

Hydrogen bis[1,2,3-propanetriolato(2-)-O¹,O²]borate(1-), 10Cl, 9Cl

Bisglycerol borate. Di(glycerin)borate. Diglyceryl borate

[49625-59-4]



M 191.975

Paper adhesive, anticorrosion additive for cements and brake fluids, heat stabiliser for polycarbonates.

Japan. Pat., 75 79 536, (1975); *CA*, **83**, 207052c (*use*)

Japan. Pat., 75 121 320, (1975); *CA*, **84**, 94628v (*use*)

Japan. Pat., 78 90 361, (1978); *CA*, **89**, 216341x (*use*)

Hamanaka, H., *Yukagaku*, 1979, **28**, 285; *CA*, **91**, 59208f (*props*)

Ger. Pat., 2 831 538, (1980); *CA*, **93**, 134858q (*use*)

U.S.P., 4 192 759, (1980); *CA*, **94**, 86976y (*synth*, *use*)

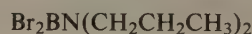
C₆H₁₄BBr₂N

B-00411

Dibromo(dipropylamino)borane

1,1-Dibromo-N,N-dipropylboranamine, 10Cl, 9Cl

[54336-82-2]



M 270.801

Colourless mobile liq., fumes in air due to moisture-sensitivity. d₄¹⁸ 1.474. Bp₁ 48°. n_D¹⁸ 1.4918.

Spitsyn, V.I. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974, 2626; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2535 (*synth*)

Bryukhova, E.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 1614; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1529 (*nmr*)

Balabanova, E.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2638; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2360 (*nmr*)

Balabanova, E.A. *et al*, *Zh. Neorg. Khim.*, 1980, **25**, 1793.

C₆H₁₄BBr₃S

B-00412

Tribromoborane dipropyl sulfide

Tribromo[1,1'-thiobis[propane]]boron, 10Cl. Tribromoborane compd. with 1,1'-thiobis[propane](1:1). Boron tribromide dipropyl sulfide

[61552-15-6]



M 368.759

Romm, I.P. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 2445.

Gol'dshtein, I.P. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1977, **237**, 1392.

Gol'dshtein, I.P. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 2568.

Gol'dshtein, I.P. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1980, **252**, 909.

C₆H₁₄BBr₃Se**B-00413****Tribromoborane dipropyl selenide**

Tribromo[1,1'-selenobis[propane]]boron, 10Cl. Tribromoborane compd. with 1,1'-selenobis[propane](1:1). Boron tribromide dipropyl selenide
[65907-94-0]



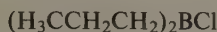
M 415.659

Gol'dshtein, I.P. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1977, **237**, 1392; 1980, **252**, 909.

Gol'dshtein, I.P. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 2568.

C₆H₁₄BCl**B-00414****Chlorodipropylborane, 10Cl, 9Cl, 8Cl**

Chlorodipropylborine. Dipropylchloroborane
[22086-53-9]



M 132.440

Synthetic intermed. Colourless liq., sensitive to air and moisture. d_4^{20} 0.848. Mp < -125°. Bp 127°.

▷ Ignites in air

Dollimore, D. *et al*, *J. Chem. Soc.*, 1953, 3906 (*synth*)

U.S.P., 2 930 743, (1960); *CA*, **54**, 16386e (*synth*)

B.P., 853 063, (1960); *CA*, **55**, 10317h (*synth*)

Long, L.H. *et al*, *J. Chem. Soc.*, 1963, 2181 (*synth*)

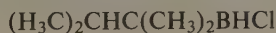
Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **719**, 169 (*synth*)

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **724**, 34.

Qureshi, A.R. *et al*, *Pak. J. Sci.*, 1977, **29**, 129 (*synth, props*)

C₆H₁₄BCl**B-00415****Chloro(1,1,2-trimethylpropyl)borane, 10Cl**

Thexylchloroborane. Chlorothexylborane
[75030-54-5]



M 132.440

Used in ketone synth. Air- and moisture-sensitive. Known only in ether soln. or as Me₂S adduct.

Me₂S adduct: [75067-06-0].

C₈H₂₀BClS M 194.569

Reagent for ketone synth. Formed as CH₂Cl₂ or ether soln. and used as such.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 4540 (*synth, use*)

Kulkarni, S.V. *et al*, *J. Org. Chem.*, 1980, **45**, 4542 (*use*)

Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 5919 (*synth, use*)

C₆H₁₄BCl₂N**B-00416****Dichloro(diisopropylamino)borane**

1,1-Dichloro-N,N-bis(1-methylethyl)boranamine, 10Cl, 9Cl
[44873-49-6]



M 181.899

Moisture-sensitive.

Py complex: [15590-33-7].

C₁₁H₁₉BCl₂N₂ M 261.001

White cryst. solid. Bp₁₀ 60° subl. Hydrolyses readily in atm.

4-Methylpyridine complex: [15590-35-9].

C₁₂H₂₁BCl₂N₂ M 275.027

White cryst. solid. Mp 74°. Hydrolyses readily in atm.

Lappert, M.F. *et al*, *J. Chem. Soc. (A)*, 1967, 602 (*deriv*)

Baudler, M. *et al*, *Z. Naturforsch., B*, 1978, **33**, 355.

Baudler, M. *et al*, *Z. Anorg. Allg. Chem.*, 1981, **474**, 18 (*synth*)

C₆H₁₄BF₃O**B-00417****Trifluoroborane 1-hexanol**

Trifluoro(1-hexanol)boron, 10Cl. 1-Hexanol compd. with trifluoroborane(1:1), 9Cl. Hexyl alcohol compd. with boron fluoride(BF₃)(1:1), 8Cl
[1536-90-9]



M 169.981

Catalyst for dimerisation of alkenes. Moisture-sensitive.

Ogg, R.A. *et al*, *Chem. Co-ord. Compds., Symp., Rome*, 1957, 468; *CA*, **58**, 2041d (*nmr*)

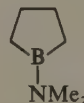
Romadne, T., *Latvijas PSR Zinatnu Akad. Vestis, Kim. Ser.*, 1963, 343; *CA*, **60**, 2531a.

Yoneda, N. *et al*, *Kogyo Kagaku Zasshi*, 1971, **74**, 908; *CA*, **75**, 48075d (*use*)

Can. Pat., 1 034 967, (1978); *CA*, **90**, 137235h (*synth, use*)

C₆H₁₄BN**B-00418****1-(Dimethylamino)borolane, 8Cl**

N,N-Dimethylborolanamine, 10Cl
[1192-61-6]



M 110.993

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs. d_{20}^{20} 0.817. Bp 48-50°, Bp₂₄ 38-9°. n_D^{20} 1.4460.

Ger. Pat., 1 118 200, (1961); *CA*, **56**, 14327h (*synth, ir*)

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1965, **160**, 615 (*synth, props*)

Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)

C₆H₁₅B**B-00419****Triethylborane, 10Cl, 9Cl**

Boron triethyl. Triethylborine
[97-94-9]



M 97.995

Fuming liq. d_4^{23} 0.70. Mp -92.5°. Bp 95°.

▷ Spontaneously flammable; toxic. ED2100000.

Ital. Pat., 758 247, (1967); *CA*, **68**, 49728 (*synth*)

Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)

Nöth, H. *et al*, *Synth. Inorg. Met.-Org. Chem.*, 1971, **1**, 197 (*synth*)

Japan. Pat., 60 226, (1974); *CA*, **80**, 108666 (*synth*)

Harbold, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **420**, 251 (*ir, raman*)

Wrackemeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*nmr*)

Bretherick, L., *Handbook of Reactive Chemical Hazards*, 2nd Ed., Butterworths, London and Boston, 1979, 608.

Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 428.

Hazards in the Chemical Laboratory, (Bretherick, L., Ed.), 3rd Ed., Royal Society of Chemistry, London, 1981, 518.

C₆H₁₅B

B-00420

(1,1,2-Trimethylpropyl)borane, 10Cl, 9Cl, 8Cl
2,3-Dimethyl-2-butylborane. *Thexylborane*
[3688-24-2]



M 97.995

Exists as dimer in THF soln. or in neat form. Prep'd. from tetramethylethylene and borane in THF at 0°. Reagent in organic synthesis; hydroborating agent generally prep'd. *in situ*. Colourless liq. Stable for 10 days in refrigerator but isomerizes over prolonged periods at 25°. Air- and moisture-sensitive. Sol. THF, Et₂O. Mp -34.7° to -32.3°. *ir* 2540, 1565 cm⁻¹ (BHR, B—H—B). V.p. <0.5mm at 0°.

*Me*₂*S* complex: [68297-75-6]. *Dihydro*[*thiobis*(methane)](1,1,2-trimethylpropyl)boron, 10Cl.

C₈H₂₁BS M 160.124

Hydroboration agent comparable to thexylborane in THF. Air- and moisture-sensitive liq. Sol. THF.

*N*Et₃ complex: [56118-59-3].

C₁₂H₃₀BN M 199.186

Useful store for thexylborane.

Tetramethylethylenediamine complex(1:1): [67826-89-5]. *Dihydro*(N,N,N',N'-tetramethyl-1,2-ethanediamine-N)(1,1,2-trimethylpropyl)boron, 10Cl.

C₁₂H₃₁BN₂ M 214.200

Useful store of thexylborane. Air-stable viscous liq., can be stored for several weeks at r.t. Bp₁₂ 38-40°. *n*_D²⁰ 1.4240. Treatment with BF₃. Et₂O precipitates. TMEDA. 2BF₃ leaving thexylborane.

Tetramethylethylenediamine complex(2:1): *Bis*(thexylborane)*tetramethylethylenediamine*.

C₁₈H₄₆B₂N₂ M 312.195

Stable thexylborane complex useful for its storage. Cryst. (pentane). Mp 43-5°.

*Ph*NEt₂ complex: [70868-92-7].

C₁₆H₃₀BN M 247.230

Active reducing and hydroborating agent with similar props. to free thexylborane. Liq., stable for long periods at 0°. Misc. hexane, C₆H₆, CH₂Cl₂, ethers.

Brown, H.C. *et al*, *Inorg. Chem.*, 1962, **1**, 204 (*synth*)

Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 2066 (*synth, use*)

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 1048 (*use*)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 3567; 1975, **97**, 2791; 1977, **99**, 5514 (*synth, use*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1972, **37**, 2942 (*use*)

Negishi, E. *et al*, *Synthesis*, 1974, 77 (*rev, nmr, ir*)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2791, 2799 (*use*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1977, **42**, 1392 (*deriv*)

Pelter, A. *et al*, *Tetrahedron Lett.*, 1978, 4715.

Brown, H.C. *et al*, *Inorg. Chem.*, 1979, **18**, 51 (*synth, nmr*)

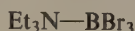
Yamamoto, Y. *et al*, *CA*, 1980, **92**, 139884 (*rev*)

C₆H₁₅BBr₃N

B-00421

Tribromoborane triethylamine

Tribromo(N,N-diethylethanamine)boron, 10Cl. N,N-Diethylethanamine comp'd. with tribromoborane(1:1). *Triethylamine* comp'd. with boron bromide(BBr₃)(1:1), 8Cl. Boron tribromide triethylamine
[2903-69-7]



M 351.713

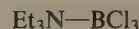
Gates, P.N. *et al*, *Spectrochim. Acta*, 1965, **21**, 1445 (*nmr*)
Massey, A.G. *et al*, *J. Organomet. Chem.*, 1966, **5**, 218 (*nmr*)
Davies, P.G. *et al*, *Inorg. Nucl. Chem. Lett.*, 1967, **3**, 249 (*ir*)
Romm, I.P. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 2445.
Sheikh, S.U., *J. Thermal. Anal.*, 1980, **18**, 299 (*synth*)

C₆H₁₅BCl₃N

B-00422

Trichloroborane triethylamine

Trichloro(N,N-diethylethanamine)boron, 10Cl. N,N-Diethylethanamine comp'd. with trichloroborane(1:1), 8Cl. *Triethylamine* comp'd. with boron chloride(BCl₃)(1:1), 8Cl. Boron trichloride triethylamine
[2890-88-2]



M 218.360

Davies, P.G. *et al*, *Inorg. Nucl. Chem. Lett.*, 1967, **3**, 249 (*ir*)
Kaplansky, M. *et al*, *Can. J. Chem.*, 1970, **48**, 697 (*nqr*)
Ryschkewitsch, G.E. *et al*, *J. Magn. Reson.*, 1969, **1**, 584 (*nmr*)
Sheikh, S.U., *Bull. Chem. Soc. Jpn.*, 1976, **49**, 2879 (*nqr*)
Sheikh, S.U., *J. Therm. Anal.*, 1980, **18**, 299 (*synth*)

C₆H₁₅BFN

B-00423

Butyl(dimethylamino)fluoroborane

1-Butyl-1-fluoro-N,N-dimethylboranamine, 10Cl
[72334-78-2]



M 131.000

Air- and moisture-sensitive.

Costes, J.P. *et al*, *J. Organomet. Chem.*, 1979, **175**, 257 (*nmr*)

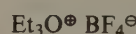
C₆H₁₅BF₄O

B-00424

Triethyloxonium tetrafluoroborate, 10Cl, 9Cl

Triethyloxonium fluoroborate

[368-39-8]



M 189.988

Powerful alkylating agent. Hygroscopic cryst. (Et₂O). Sol. CH₂Cl₂, sl. sol. Et₂O. Mp 91-2° dec.

▷RR4584700.

Org. Synth., 1966, **46**, 113 (*synth*)

Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, **8**, 500.

Jones, F.R. *et al*, *J. Chem. Soc., Dalton Trans.*, 1979, 927 (*synth*)

C₆H₁₅BO

B-00425

Ethoxydiethylborane

Diethylborinic acid ethyl ester, 10Cl, 9Cl, 8Cl.

Diethyl(ethoxy)borane

[15706-69-1]



M 113.994

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs. Bp 105-7°.

Ger. Pat., 1 125 923, (1962); *CA*, **57**, 9880f (*synth*)

Ital. Pat., 704 906, (1966); *CA*, **68**, 22370b (*use*)

Shitov, O.P. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 1266.

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1975, 352 (*synth*, *props*, *pmr*, *ms*)

Paetzold, P. *et al*, *Z. Naturforsch.*, B, 1980, 35, 568.

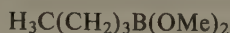
C₆H₁₅BO₂

B-00426

Butyldimethoxyborane

Butylboronic acid dimethyl ester, 10Cl, 9Cl. *1-Butaneboronic acid dimethyl ester. Dimethyl butaneboronate*

[2117-94-4]



M 129.993

Liq., sensitive to air and moisture. d_{20} 0.828. Bp_{20} 39°. n_{D}^{20} 1.3935.

Laurent, J.P. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1961, 253, 1812 (*synth*)

Vasil'ev, L.S. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1126; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1031.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1385.

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, 154, 113.

Mendoza, A. *et al*, *J. Org. Chem.*, 1979, 44, 1352.

C₆H₁₅BO₂

B-00427

Diethoxyethylborane

Ethylboronic acid diethyl ester, 10Cl. *Ethyl-diethoxyborane. Diethyl ethaneboronate. Ethaneboronic acid diethyl ester*

[53907-92-9]



M 129.993

Catalyst for polymn. of ethylene. Probably liq., air- and moisture-sensitive. Sol. non-hydroxylic solvs.

Ger. Pat., 2 523 167, (1975); *CA*, 84, 60251b (*use*)

Japan. Pat., 79 30 425, (1979); *CA*, 92, 77161k (*use*)

Paetzold, P. *et al*, *Z. Naturforsch.*, B, 1980, 35, 568.

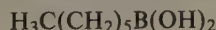
C₆H₁₅BO₂

B-00428

Hexyldihydroxyborane

Hexylboronic acid, 10Cl, 9Cl. *1-Hexaneboronic acid*, 8Cl

[16343-08-1]



M 129.993

Used to inhibit cholinesterase, proteinase, lipase and chymotrypsin. White cryst. (H₂O or hexane/Me₂CO).

Air-sensitive. Spar. sol. H₂O. Mp 88-90°. V. weak acid, almost neutral to litmus.

Snyder, H.R. *et al*, *J. Am. Chem. Soc.*, 1938, 60, 105 (*synth*, *props*)

McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1957, 79, 5182 (*props*)

Laurent, J.P., *C.R. Hebd. Seances Acad. Sci.*, 1962, 254, 866 (*synth*)

Zweifel, G., *J. Organomet. Chem.*, 1967, 9, 215 (*synth*)

Antonov, V.K. *et al*, *Mol. Biol.*, 1970, 4, 558 (*props*)

Jarv, J. *et al*, *CA*, 1978, 89, 125125p (*use*)

C₆H₁₅BO₃

B-00429

Triethoxyborane

Boric acid (H₃BO₃) triethyl ester, 10Cl, 9Cl, 8Cl. *Triethyl borate. Triethyl orthoborate. Ethyl borate*

[150-46-9]



M 145.993

Used in manuf. of oxalate esters by carbonylation; catalyst for polymn. of alkenes and dienes and in polyester manuf.; stabilizing agent, insect sterilant.

Liq. readily hydrolysed. Sol. non-hydroxylic solvs. d_4^{26} 0.864. Mp -84.8°. Bp 120°, 118.6°. n_{D}^{25} 1.3721.

Forms azeotrope (1:7) with EtOH.

▷ ED5075000.

Webster, S.H. *et al*, *J. Am. Chem. Soc.*, 1933, 55, 3233 (*synth*, *props*)

Inorg. Synth., 1957, 5, 29 (*synth*, *props*)

Fallon, P.J. *et al*, *Int. J. Mass Spectrom. Ion Phys.*, 1968, 1, 133 (*ms*)

Cradock, S. *et al*, *J. Chem. Soc., Dalton Trans.*, 1975, 25 (*pe*)

Gmelins Handbuch der Anorg. Chem., 8th Ed., 1975, 13, 149 (*bibl*)

Furlei, I.I. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2127; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 25, 2127 (*ms*)

Pola, M. *et al*, *Collect. Czech. Chem. Commun.*, 1979, 44, 3688 (*ir*, *props*)

C₆H₁₅BS₂

B-00430

tert-Butylbis(methylthio)borane

(1,1-Dimethylethyl)dithioboronic acid dimethyl ester, 10Cl

[65568-73-2]



M 162.115

Liq., sensitive to air and moisture. Bp_{15} 74-7°.

Nöth, H. *et al*, *J. Organomet. Chem.*, 1977, 142, 281 (*synth*, *nmr*)

C₆H₁₅B₃Cl₃N₃

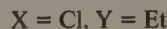
B-00431

2,4,6-Trichloro-1,3,5-triethylborazine, 10Cl, 9Cl, 8Cl

B,B,B-Trichloro-N,N,N-triethylborazole

[2608-99-3]

As 2,4,6-Tribromoborazine, B-00015 with



M 267.994

Solid. Mp 55-9°. $\text{Bp}_{0.1}$ 66°.

Turner, H.S. *et al*, *Chem. Ind. (London)*, 1958, 526 (*synth*)

Butcher, I.M. *et al*, *Spectrochim. Acta*, 1962, 18, 1487 (*ir*, *struct*)

Butcher, I.M. *et al*, *J. Inorg. Nucl. Chem.*, 1965, 27, 817 (*props*)

Turner, H.S. *et al*, *J. Chem. Soc.*, 1965, 6421 (*synth*, *props*)

Cros, G. *et al*, *Bull. Soc. Chim. Fr.*, 1969, 2601 (*nmr*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, 109, 3480.

C₆H₁₅B₃O₃

B-00432

Triethylboroxin, 10Cl, 9Cl, 8Cl

[3043-60-5]

As Boroxin, B-00019 with



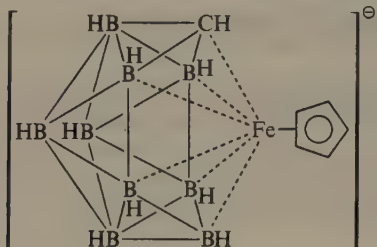
M 167.613

Used in polymerisation of cyclic ethers. Moisture-sensitive liq., disproportionates above 200°. d^{25} 0.896. Bp_{736} 153°. n_{D}^{25} 1.3958.

McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5179 (synth)
 Ashby, E. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 4791 (synth)
 Laurent, P.J. *et al*, *Bull. Soc. Chim. Fr.*, 1970, **3**, 836 (nmr)
 Köster, R. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1980, **92**, 553 (use)

C₆H₁₅B₉Fe⁺ B-00433

(η^5 -2,4-Cyclopentadien-1-yl)[η^6 -decahydrocarbadecaboro-
 to(2-)]ferrate(1-), 10Cl
 closo-[1- η^5 -Cyclopentadienylferrate-2-CB₉H₁₀]



M 240.322 (ion)
 Paramagnetic.

Tetramethylammonium salt: [62580-70-5].

C₁₀H₂₇B₉FeN M 314.467
 Violet needles (MeOH).

Dolansky, J. *et al*, *Chem. Ind. (London)*, 1976, 853 (synth, nmr)
 Subrtova, V. *et al*, *Acta Crystallogr., Sect. B*, 1978, **34**, 2720 (struct)

C₆H₁₆B⁺ B-00434

Triethylhydroborate(1-), 10Cl, 9Cl, 8Cl
 Triethylborohydride



M 99.002 (ion)

Li salt: [22560-16-3]. Lithium triethylhydroborate, 10Cl, 9Cl, 8Cl. Lithium triethylborohydride. Superhydride.

C₆H₁₆BLi M 105.943

Powerful nucleophile for S_N2 displacements; reducing agent. Monodeuterio deriv. is used for deuterium incorporation. Air- and moisture-sensitive cryst. (C₆H₆). Mp 66-7°. Commercially available as THF soln.

▷ Flammable

Na salt: [17979-81-6]. Sodium triethylhydroborate, 10Cl, 9Cl, 8Cl. Sodium triethylborohydride.

C₆H₁₆BNa M 121.992

Air- and moisture-sensitive colourless cryst. when pure (often obt. as dark oil). Mp 30°.

K salt: [22560-21-0]. Potassium triethylhydroborate, 10Cl, 9Cl, 8Cl. Potassium triethylborohydride.

C₆H₁₆BK M 138.101

Air- and moisture-sensitive.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 1669 (use)
 Mielczarek, I., *Wiad. Chem.*, 1973, **27**, 814; *CA*, **80**, 46964x (rev)

Inorg. Synth., 1974, **15**, 136 (synth)

Brown, C.A., *J. Organomet. Chem.*, 1978, **156**, C17 (props)

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 467 (props)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (synth, nmr, ir)

Dervan, P.B. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 3863 (props)

Krishnamurthy, S. *et al*, *J. Org. Chem.*, 1980, **45**, 849 (use)

Yamamoto, Y. *et al*, *CA*, 1980, **92**, 139884j (rev)

Selover, J.C. *et al*, *J. Organomet. Chem.*, 1981, **206**, 317 (props)

C₆H₁₆BN

Aminodipropylborane, 8Cl

1,1-Dipropylboranamine, 10Cl, 9Cl

[28872-72-2]



M 113.009

Air- and moisture-sensitive liq. d₂₀ 0.748. Bp 117°, Bp₉₆ 64-5°. n_D²⁰ 1.4170.

Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1961, **31**, 160 (synth)

Laurent, J.P., *Bull. Soc. Chim. Fr.*, 1963, 558 (synth)

Hohnstedt, L.F. *et al*, *J. Chem. Soc. (A)*, 1970, 2455 (ir, synth)

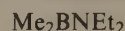
C₆H₁₆BN

(Diethylamino)dimethylborane

N,N-Diethyl-1,1-dimethylboranamine, 10Cl, 9Cl.

(Diethylamino)dimethylborine

[7318-87-8]



M 113.009

Air- and moisture-sensitive liq. Bp₇₁₂ 90-2°.

Goubeau, J. *et al*, *Chem. Ber.*, 1960, **93**, 1379.

Nöth, H., *Z. Naturforsch., B*, 1961, **16**, 470 (synth)

Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049; 1981, **114**, 1150 (nmr)

Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (nmr)

C₆H₁₆BN

(Dimethylamino)diethylborane, 8Cl

1,1-Diethyl-N,N-dimethylboranamine, 10Cl, 9Cl.

(Dimethylamino)diethylborine

[7397-47-9]



M 113.009

Air- and moisture-sensitive.

Erickson, C.E. *et al*, *J. Org. Chem.*, 1959, **24**, 1161.

Nöth, H. *et al*, *J. Organomet. Chem.*, 1964, **1**, 401.

Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (nmr)

Emerick, D.P. *et al*, *J. Organomet. Chem.*, 1978, **154**, 147.

Pactzold, P. *et al*, *Chem. Ber.*, 1979, **112**, 654.

Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (nmr)

C₆H₁₆BNO₂

(Ethoxycarbonyl)borane trimethylamine

(Ethoxycarbonyl)(N,N-dimethylmethanamine)dihydroboron, 10Cl. Boranecarboxylic acid ethyl ester compd. with N,N-dimethylmethanamine(1:1)

[75519-14-1]



M 145.008

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1980, **69**, 1025; 1981, **70**, 339 (synth, pharmacol)

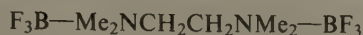
C₆H₁₆B₂F₆N₂

Bis(trifluoroborane) tetramethylethylenediamine

Hexafluoro[μ-(N,N,N',N'-tetramethyl-1,2-ethanediamine-N,N')]diboron, 10Cl. N,N,N',N'-Tetramethyl-1,2-ethanediamine compd. with trifluoroborane(1:2)

B-00439

[67813-45-0]



M 251.816

Large cryst. (MeCN). Form. of this complex allows removal of TMEDA from alkylboranes. Insol. nonpolar org. solvs. Mp 210-2°.

Singaram, B. *et al*, *J. Organomet. Chem.*, 1978, **156**, C1 (*synth*)Brown, H.C. *et al*, *Inorg. Chem.*, 1979, **18**, 51 (*synth*)Brown, H.C. *et al*, *Inorg. Chem.*, 1980, **19**, 455 (*nmr*)**C₆H₁₇BClN****B-00440****Chloroborane triethylamine**

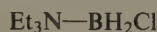
Chloro(N,N-diethylethanamine)dihydroboron, 10Cl.

Chloroborane compd. with N,N-diethylethanamine(1:1),

1), 9Cl. Chloroborane compd. with triethylamine(1:1),

8Cl. Triethylamine compd. with chloroborane(1:1)

[13240-39-6]



M 149.470

White cryst. solid. Mp 43°.

Nöth, H. *et al*, *Chem. Ber.*, 1960, **93**, 2251 (*synth*)Faulks, J.N.G. *et al*, *J. Inorg. Nucl. Chem.*, 1967, **29**, 329 (*ir*, *nmr*)Baker, C.S.L., *J. Organomet. Chem.*, 1969, **19**, 287 (*synth*)Zhigach, A.F. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 1966; *CA*, **79**, 146579y.Myers, W.H. *et al*, *Inorg. Chem.*, 1975, **14**, 2874 (*pmr*)Drummond, A. *et al*, *Inorg. Chim. Acta*, 1977, **24**, 191.Schmidbaur, H. *et al*, *Chem. Ber.*, 1979, **112**, 1448.**C₆H₁₇BN₂O****B-00441****N-Ethylcarbamoyleborane trimethylamine**

(N,N-Dimethylmethanamine)[(ethylamino)carbonyl]-dihydroboron, 10Cl. N-Ethylboranecarboxamide, compd. with N,N-dimethylmethanamine(1:1), 9Cl

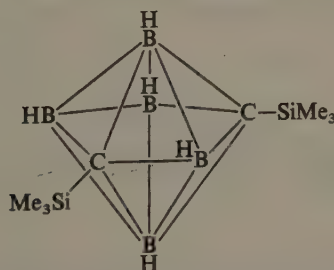
[60788-35-4]



M 144.023

Shows a broad spectrum of physiological activity. Clear liq. Bp_{0.001} 80°.Spielvogel, B.F. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 5702 (*synth*, *nmr*, *ms*, *ir*)Hall, I.H. *et al*, *J. Pharm. Sci.*, 1979, **68**, 685; 1980, **69**, 1025; 1981, **70**, 339 (*synth*, *pharmacol*)**C₆H₁₇B₅Cl₂Si₂****B-00442****2,4-Bis(chlorodimethylsilyl)-2,4-dicarbaheptaborane(7), 10Cl**

[28699-83-4]



M 270.327

closo-. Monomer used for polymer formation. Colourless liq. Mp -14.9°. Bp 234.4°.

Kesting, R. *et al*, *J. Appl. Polymer Sci.*, 1970, **14**, 2525.Zhigach, A. *et al*, *J. Gen. Chem. USSR (Engl. Transl.)*, 1978, **48**, 536 (*ir*, *ms*)Golosova, R. *et al*, *Russ. J. Phys. Chem.*, 1979, **53**, 435.**C₆H₁₈BN****B-00443****Borane triethylamine**

(N,N-Diethylethanamine)trihydroboron, 10Cl. Triethylamine borane

[1722-26-5]



M 115.025

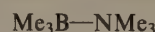
Liq. with camphor-like odour. d₂₀ 0.785. Mp -2°. Bp₁₂ 100-1°.

Köster, R., *Angew. Chem.*, 1957, **69**, 94 (*synth*)Zigach, A.F., *Zh. Obshch. Khim.*, 1957, **27**, 1655 (*synth*)Heitsch, C.W., *Inorg. Chem.*, 1965, **4**, 1019 (*nmr*)Faulks, J.N.G. *et al*, *J. Inorg. Nucl. Chem.*, 1967, **29**, 329 (*ir*, *nmr*)Purser, J.M. *et al*, *Inorg. Chem.*, 1968, **7**, 2156 (*nmr*)Sheikh, S.U., *J. Math. Sci.*, 1974, **1**, 131 (*ms*)**C₆H₁₈BN****B-00444****Trimethylborane trimethylamine**

(N,N-Dimethylmethanamine)trimethylboron, 10Cl.

N,N-Dimethylmethanamine, compd. with trimethylborane(1:1), 9Cl

[1704-27-4]



M 115.025

Cryst. Mp 120°.

Schlesinger, H.I. *et al*, *J. Am. Chem. Soc.*, 1939, **61**, 1078 (*synth*)Purser, J.M. *et al*, *Inorg. Chem.*, 1968, **7**, 2156 (*nmr*, *cmr*)Ang, T.T. *et al*, *J. Chem. Soc., Faraday Trans. 2*, 1972, **68**, 1331 (*pmr*)Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3070 (*nmr*)McFarlane, W. *et al*, *Chem. Ber.*, 1975, **108**, 3831 (*nmr*)Fussstetter, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (*cmr*)Kuznesof, P.M. *et al*, *Inorg. Chem.*, 1978, **17**, 2308 (*struct*, *ir*)**C₆H₁₈BNO****B-00445****Borane 2-ethoxy-N,N-dimethylethylamine**

(2-Ethoxy-N,N-dimethylethylamine-N)trihydroboron,

10Cl. 2-Ethoxy-N,N-dimethylethylamine compd. with borane(1:1)

[67036-04-8]



M 131.024

U.S.P., 4 080 381, (1978); *CA*, **89**, P23753zU.S.P., 4 142 902, (1979); *CA*, **91**, P25752p**C₆H₁₈BNO₆****B-00446****Trihydroxyborane tris(2-hydroxyethyl)amine**Boric acid (H₃BO₃) compd. with 2,2',2''-nitriolo-tris[ethanol], 10Cl, 9Cl. Triethanolamine boric acid

[10049-36-2]



M 211.021

Corrosion inhibitor for water-based cutting fluids.

Stabilizer for enzymes in aq. detergent compositions.

Anticorrosion agent for tin.

Fr. Pat., 1 317 963, (1963); *CA*, **58**, 13532e (*use*)
Ger. Pat., 1 953 714, (1970); *CA*, **73**, 69323g (*use*)
U.S.P., 3 645 901, (1972); *CA*, **76**, 129698g (*use*)
Ger. Pat., 2 748 212, (1978); *CA*, **89**, 45386j (*use*)

C₆H₁₈BN₃**B-00447****Tris(dimethylamino)borane, 8Cl**

Hexamethylboranetriamine, 10Cl, 9Cl. *Tris(dimethylamino)borine*. *Tris(dimethylamino)boron*
 [4375-83-1]

B(NMe₂)₃

M 143.038

Sterilant for control of *Cochliomyia hominivorax* (screwworm fly). Reagent for synth. of dimethylamides from carboxylic acids. Liq., sensitive to moisture. Sol. Et₂O. Mp –16.5° to –16.1°. Bp 147°, Bp₉ 38°, Bp_{5.5} 33°. *n*_D²⁴ 1.4435.

Burg, A.B. *et al*, *J. Am. Chem. Soc.*, 1951, **73**, 953 (*synth*)Ruff, J.K., *J. Organomet. Chem.*, 1962, **27**, 1020 (*synth*, *ir*, *nmr*)Dewar, M.J.S. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 5510 (*ms*)Clark, A.H. *et al*, *J. Chem. Soc., Chem. Commun.*, 1969, 1082 (*struct*)King, G.H. *et al*, *Faraday Discuss. Chem. Soc.*, 1972, **54**, 70 (*pe*)Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089 (*nmr*)McFarlane, W. *et al*, *Chem. Ber.*, 1975, **108**, 3831 (*nmr*)Davidson, G. *et al*, *J. Chem. Soc., Dalton Trans.*, 1981, 306 (*ir*, *raman*)Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)**C₆H₁₈B₃N****B-00448****Tris(dimethylboryl)amine**

N,N-Bis(dimethylboryl)-1,1-dimethylboranamine, 10Cl.
Nitrilotris[dimethylborane], 8Cl
 [19163-16-7]

(Me₂B)₃N

M 136.645

Liq., unstable and fumes in air. Bp₇₃₀ 132-3°.Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*, *nmr*)Storch, W. *et al*, *Chem. Ber.*, 1977, **110**, 1636 (*nmr*, *pmr*, *synth*)Fussstetter, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (*nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 3024 (*pmr*, *nmr*, *ir*)**C₆H₁₈B₃N₃****B-00449****Hexamethylborazine, 10Cl, 9Cl**

Hexahydrohexamethyl-s-triazatriborine. *Hexamethyltriborinetriamine*. *Hexamethylborazole*
 [877-07-6]

As Borazine, B-00020 with

R = R' = Me

M 164.658

Air-stable cryst. (MeCN). Sol. hexane, CHCl₃. Mp 98-9°. Bp 221°. High thermal stability; mod. hydrolytic stability in neutral soln.

Wiberg, E. *et al*, *Z. Anorg. Allg. Chem.*, 1947, **255**, 141 (*synth*)Haworth, D.T. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 3860 (*synth*)Butcher, I.M. *et al*, *J. Chem. Soc.*, 1964, 4528 (*synth*, *pmr*)Melcher, L.A. *et al*, *Inorg. Chem.*, 1972, **11**, 1247 (*ir*)Melcher, L.A. *et al*, *Inorg. Chem.*, 1973, **12**, 601 (*ms*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)**C₆H₁₈B₃N₃****B-00450****1,3,5-Triethylborazine, 10Cl, 9Cl, 8Cl**

N,N,N-Triethylborazole. *1,3,5-Triethylhexahydro-1,3,5-triazatriborine*

[7360-03-4]

As 2,4,6-Tribromoborazine, B-00015 with

X = H, Y = Et

M 164.658

Rocket propellant component. Synthetic intermed. and reducing agent. Clear colourless liq. with odour similar to ethylamine. Mp –49.6°. Bp 184°, Bp₂₀ 66-8°, Bp_{2.5} 21°. V.p. 6mm at 34°, *n*_D²⁰ 1.4344.

Hough, W.V. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 864 (*synth*, *props*)Hohnstadt, L.K. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 89 (*synth*)Phillips, C.S.G. *et al*, *Z. Anal. Chem.*, 1963, **197**, 202 (*synth*, *chromatog*)Meller, A., *J. Inorg. Nucl. Chem.*, 1966, **2**, 41 (*ir*, *props*)Ashby, E.C. *et al*, *Inorg. Chem.*, 1971, **10**, 1524 (*ir*, *ms*, *nmr*, *synth*)Powell, P. *et al*, *J. Chem. Soc. (A)*, 1971, 2951 (*ms*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)**C₆H₁₈B₃N₃****B-00451****2,4,6-Triethylborazine, 10Cl, 9Cl, 8Cl***B,B,B-Triethylborazole*

[7443-22-3]

As Borazine, B-00020 with

R = Et, R' = H

M 164.658

Liq. with unpleasant odour. Sol. most org. solvs. *d*₄²⁰ 0.866. Fp –54° to –53°, –46.4°. Bp₇ 66-7°. Viscosity 1.48 centistokes at 20°. Molar heat of vaporisation 9.88kcal/mol. Trouton const. 22.1 e.u. Dec. >100°; stable to water at r.t. V.p. 3.35mm at 26.6°.

Haworth, D.T. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 3860 (*ir*, *synth*)Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 833 (*uv*, *ir*, *nmr*, *synth*)Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1961, **644**, 1 (*ir*, *synth*)Powell, P. *et al*, *J. Chem. Soc.*, 1964, 280 (*synth*, *chromatog*)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (*pmr*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*)**C₆H₁₈B₃N₃O₃****B-00452****Tris(dimethylamino)boroxin**

Hexamethylboroxintriimine, 10Cl, 9Cl, 8Cl.
Dimethylaminoboroxole

[17197-55-6]

As Boroxin, B-00019 with

R = NMe₂

M 212.657

Volatile moisture-sensitive solid.

Massey, A.G. *et al*, *J. Inorg. Nucl. Chem.*, 1963, **25**, 175 (*synth*, *ir*)Meller, A., *Monatsh. Chem.*, 1967, **98**, 2014 (*ir*)Nöth, H. *et al*, *Chem. Ber.*, 1973, **106**, 1145 (*nmr*)Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (*nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*cmr*)

C₆H₁₈B₃N₃S₃ B-00453

1,3,5-Trimethyl-2,4,6-tris(methylthio)borazine, 10Cl
[61423-62-9]

As 2,4,6-Tribromoborazine, B-00015 with

X = SMe, Y = Me

M 260.838

No phys. data given, but presumably moisture-sensitive.

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr*, *cmr*)

C₆H₁₉BN₂ B-00454

Borane tetramethylethylenediamine

Trihydro(N,N,N',N'-tetramethyl-1,2-ethanediamine-N)boron, 10Cl. N,N,N',N'-Tetramethylethylenediamine compd. with borane(1:1). *TMED BH₃*

[5843-32-3]

Me₂NCH₂CH₂NMe₂—BH₃

M 130.040

White cryst. solid. Can be stored below m.p. at least 24 hrs. Above m.p. quickly dec. in absence of excess TMEDA.

Gatti, A.R. *et al*, *Inorg. Chem.*, 1966, **5**, 329 (*synth*, *nmr*)

Brown, H.C. *et al*, *Inorg. Chem.*, 1980, **19**, 455.

C₆H₁₉BN₂ B-00455

(Dimethylaminomethyl)borane trimethylamine

[(Dimethylamino)methyl](N,N-dimethylmethanamine)-dihydroboron, 10Cl. Boryltrimethylamine compd. with trimethylamine(1:1), 8Cl

[14175-47-4]

Me₂NCH₂—BH₂—NMe₃

M 130.040

Colourless liq. of low volatility and strong basicity. Misc.

H₂O. Fp -26° to -24°. Slowly dec. at r.t.

Miller, N.E., *J. Am. Chem. Soc.*, 1966, **88**, 4284.

Miller, N.E. *et al*, *Inorg. Chem.*, 1969, **8**, 275 (*synth*, *ir*, *pmr*)

Miller, N.E., *J. Organomet. Chem.*, 1977, **137**, 131 (*synth*, *pmr*)

Byrne, M.J. *et al*, *Inorg. Chem.*, 1981, **20**, 1328.

C₆H₂₀BN₂[⊕] B-00456

Dihydrobis(trimethylamine)boron(1+)

Bis(N,N-dimethylmethanamine)dihydroboron(1+), 10Cl. *Bis*(trimethylamine)boronium(1+)

(Me₃N)₂BH₂[⊕]

M 131.047 (ion)

Chloride: [18517-67-4].

C₆H₂₀BClN₂ M 166.500

No phys. props. reported.

Fr. Pat., 1 394 178, (1965); *CA*, **63**, 15897a

Miller, N.E., *Inorg. Chem.*, 1977, **16**, 2664 (*synth*)

Miller, N.E., *J. Organomet. Chem.*, 1977, **137**, 131.

C₆H₂₀BP₂[⊕] B-00457

Dihydrobis(trimethylphosphine)boron(1+), 10Cl

Bis(trimethylphosphine)boronium(1+). *Boratobis*(trimethylphosphonium)(1+)

(Me₃P)₂BH₂[⊕]

M 164.982 (ion)

Bromide: [65293-66-5].

C₆H₂₀BBrP₂ M 244.886

Schmidbaur, H. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1978, **17**, 126.

Müller, G. *et al*, *Chem. Ber.*, 1979, **112**, 3302.

Schmidbaur, H. *et al*, *Chem. Ber.*, 1979, **112**, 1448.

Schmidbaur, H. *et al*, *Monatsh. Chem.*, 1980, **111**, 1233.

C₆H₂₁BN₃P B-00458

Borane tris(dimethylamino)phosphine

Hexamethylphosphorous triamide compd. with borane(1:1), 9Cl, 8Cl. (*Hexamethylphosphorous triamide*)-trihydroboron, 10Cl. *Hexamethylphosphorous triamide borine*

[7319-05-3]

(Me₂N)₃P—BH₃

M 177.036

Cryst. with camphoraceous odour. Mp 32.5°. Bp 49-50°.

Reetz, T. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 5036 (*synth*)

Laurent, J.P. *et al*, *Bull. Soc. Chim. Fr.*, 1969, 26.

Laurant, J.P. *et al*, *J. Inorg. Nucl. Chem.*, 1969, **31**, 1353 (*nmr*)

Cowley, A.H. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 6815 (*pmr*, *nmr*)

Jouany, C. *et al*, *Bull. Soc. Chim. Fr.*, 1972, 880 (*pmr*, *nmr*)

Elegant, L. *et al*, *Can. J. Chem.*, 1978, **56**, 857 (*pmr*, *nmr*)

C₆H₂₂AlB₉ B-00459

Dodecahydro-7,8-dicarbaundecaborato(1-)-H⁹,H¹⁰-diethylaluminum

7,8-μ-Diethylalumino-1,2-dicarba-nido-undecaborane-(13)

[11098-58-1]

As Dodecahydro-7,8-dicarbaundecaborato(1-)-H⁹,H¹⁰ dimethylaluminum, B-00291 with

R = Et

M 218.511

Colourless cryst. (hexane). Mp 34.5-35.5°.

⊃ Explodes with water

Young, D.A.T. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 5687 (*synth*, *ir*, *pmr*, *nmr*)

C₆H₂₂B₂N₂ B-00460

Tetramethylethylenediamine bis(borane)

Hexahydro[μ-(N,N,N',N'-tetramethyl-1,2-ethanediamine-N:N')]diboron, 10Cl. N,N,N',N'-Tetramethyl-1,2-ethanediamine, compd. with borane(1:2), 9Cl
[5843-33-4]

H₃B—Me₂NCH₂CH₂NMe₂—BH₃

M 143.873

White solid. Mp 181-3°.

Miller, N.E. *et al*, *Inorg. Chem.*, 1964, **3**, 866.

Miller, H.C. *et al*, *Inorg. Chem.*, 1964, **3**, 1456 (*synth*)

Gatti, A.R. *et al*, *Inorg. Chem.*, 1966, **5**, 329 (*synth*, *pmr*, *nmr*)

Nainan, K.C. *et al*, *Inorg. Chem.*, 1969, **8**, 2671 (*synth*, *pmr*, *nmr*)

Hu, M.G. *et al*, *Inorg. Chim. Acta*, 1974, **10**, 83.

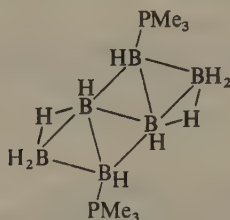
Brown, H.C. *et al*, *Inorg. Chem.*, 1980, **19**, 455.

C₆H₂₈B₆P₂

B-00461

Hexaborane(10) bis(trimethylphosphine)

Trimethylphosphine compd. with hexaborane(10)(2:1)
[57034-29-4]



M 227.095

hypho-. Stable hypho-cage structure. Monoclinic cryst.
Sol. CH₂Cl₂, THF. Mp 125° dec.

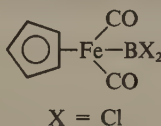
Mangion, M. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 449 (*synth*,
cryst struct, *nmr*)

C₇H₅BCl₂FeO₂

B-00462

Dicarbonyl(η⁵-2,4-cyclopentadien-1-yl)dichloroboraneiron

Dicarbonyl-π-cyclopentadienyl(dichloroboryl)iron, 8Cl.
(Cyclopentadienyldicarbonyliron)boron dichloride. Di-
carbonyl(η⁵-cyclopentadienyl)iron dichloroborane
[12306-68-2]



M 258.678

Brown.

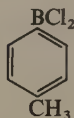
Schmid, G. *et al*, *Chem. Ber.*, 1968, **101**, 1205 (*synth*)

C₇H₇BCl₂

B-00463

Dichloro(4-methylphenyl)borane, 10Cl, 9Cl

Dichloro-p-tolylborane, 8Cl. p-Tolyl dichloroborane
[4250-45-7]



M 172.848

Moisture-sensitive liq. Sol. Et₂O. d₃₀ 1.160. Bp₇₄₇ 205°,
Bp_{0.2} 42°. n_D³⁰ 1.5452.

McCusker, P. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5185 (*synth*,
props)

Butcher, F. *et al*, *Spectrochim. Acta*, 1963, **19**, 905 (*ir*)

Gerrard, W. *et al*, *J. Chem. Soc.*, 1963, 1582 (*synth*)

Smith, J. *et al*, *J. Chem. Soc. (A)*, 1971, 178 (*nmr*)

Hooz, J. *et al*, *Org. Prep. Proced. Int.*, 1972, **4**, 219 (*synth*)

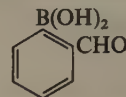
Paetzold, P. *et al*, *Chem. Ber.*, 1980, **113**, 3724 (*use*)

C₇H₇BO₃

B-00464

(2-Formylphenyl)dihydroxyborane

(2-Formylphenyl)boronic acid, 10Cl, 9Cl
[40138-16-7]



M 149.941

Fr. Pat., 95 127, (1970); *CA*, **78**, 72108z

Ger. Pat., 1 670 494, (1976); *CA*, **86**, 90009n

Ger. Pat., 2 533 918, (1977); *CA*, **87**, 23334x

Ger. Pat., 2 620 776, (1977); *CA*, **88**, 89835p

Ger. Pat., 2 620 777, (1977); *CA*, **88**, 89836q

U.S.P., 4 199 573, (1980); *CA*, **93**, 186544d

C₇H₈BCl₂N

B-00465

Dichloro(methylphenylamino)borane

1,1-Dichloro-N-methyl-N-phenylboranamine, 10Cl, 9Cl.
Dichloro(N-methylanilino)borane, 8Cl. Dichloro(N-
methylanilino)borine
[1125-73-1]



M 187.863

Moisture-sensitive liq. Bp₇ 94-8°.

Niedenzu, K. *et al*, *J. Am. Chem. Soc.*, 1959, **81**, 5553 (*synth*)

Baechele, H.T. *et al*, *Spectrochim. Acta*, 1965, **21**, 579 (*ir*,
raman)

Becher, H.J. *et al*, *Chem. Ber.*, 1965, **98**, 526 (*synth*)

Scott, K.N. *et al*, *Inorg. Chem.*, 1969, **8**, 1703 (*nmr*)

Lochmueller, C.H. *et al*, *J. Chromatogr.*, 1973, **85**, 132
(*chromatog*)

Baudler, M. *et al*, *Z. Anorg. Allg. Chem.*, 1981, **474**, 18 (*synth*)

C₇H₈BF₃O

B-00466

Trifluoroborane methoxybenzene

Trifluoro(methoxybenzene)boron, 10Cl. Trifluoroborane
compd. with methoxybenzene(1:1), 9Cl. Anisole compd.
with boron fluoride(BF₃)(1:1), 8Cl. Trifluoroborane
anisole
[456-31-5]



M 175.945

Catalyst for oligomerisation of benzonitrile. Moisture-
sensitive liq., dec. before dist. Mp -13°.

Meerwein, H. *et al*, *J. Prakt. Chem.*, 1932, **134**, 51.

Taillandier, E. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1966, **263**,
1265 (*ir*)

Romm, I.P. *et al*, *Zh. Fiz. Khim.*, 1968, **42**, 220.

Voloshchuk, A.M. *et al*, *Kernenergie*, 1974, **17**, 150 (*ir*)

Borovikov, Y.Y. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 2531.

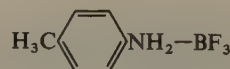
Polevoi, A.S. *et al*, *Zh. Fiz. Khim.*, 1981, **55**, 1929.

C₇H₉BF₃N

B-00467

Trifluoroborane 4-methylaniline

Trifluoro(4-methylbenzenamine)boron, 10Cl. 4-Methyl-
benzenamine compd. with trifluoroborane(1:1), 9Cl. p-
Toluidine compd. with boron fluoride(BF₃), 8Cl. Boron
trifluoride p-toluidine
[1978-51-4]



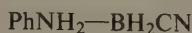
M 174.960

Crosslinking catalyst for epoxy resins. Yellow solid. Mp
250°.

Martin, D.R., *Chem. Rev.*, 1948, **42**, 581 (rev)
 Smith, C.H., *Mod. Plast.*, 1969, **46**, 118.
 Zubkova, Z.A. et al, *Plast. Massy*, 1969, **24**; *CA*, **71**, 4054j (use)
 Zubkova, Z.A. et al, *Vysokomol. Soedin., Ser. A*, 1971, **13**, 2559 (use)

C₇H₉BN₂**B-00468****Cyanoborane aniline**

(Benzenamine)(cyano-C)dihydroboron, 10Cl
 [66632-44-8]

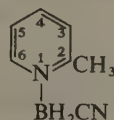


M 131.972

Cryst. (EtOH aq.). Mp 152-4°.

McPhail, A.T. et al, *J. Chem. Res. (S)*, 1978, 205.Wisian-Neilson, P. et al, *Inorg. Chem.*, 1978, **17**, 2327 (synth, pmr, ir)**C₇H₉BN₂****B-00469****Cyanoborane 2-methylpyridine**

(Cyano-C)dihydro(2-methylpyridine)boron, 10Cl. Boranecarbonitrile, compd. with 2-methylpyridine(1:1)
 [67374-57-6]



M 131.972

White solid. Mp 32-4°.

Martin, D.R. et al, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (synth, nmr, ir)**C₇H₉BN₂****B-00470****Cyanoborane 3-methylpyridine**

(Cyano-C)dihydro(3-methylpyridine)boron, 10Cl. Boranecarbonitrile, compd. with 3-methylpyridine(1:1)
 [67374-56-5]

M 131.972

Liq.

Martin, D.R. et al, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (synth, ir, nmr)**C₇H₉BN₂****B-00471****Cyanoborane 4-methylpyridine**

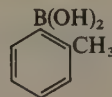
(Cyano-C)dihydro(4-methylpyridine)boron, 10Cl. Boranecarbonitrile, compd. with 4-methylpyridine(1:1), 9Cl. Boranecarbonitrile, compd. with 4-picoline(1:1), 8Cl
 [30353-62-9]

M 131.972

White cryst. by subl. Mp 60-1°.

Kelly, H.C. et al, *J. Chem. Soc., Chem. Commun.*, 1970, 1619 (synth)Weidig, C. et al, *Inorg. Chem.*, 1974, **13**, 1763 (synth, pmr, ir)Martin, D.R. et al, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (synth, nmr, ir)**C₇H₉BO₂****B-00472****Dihydroxy(2-methylphenyl)borane**

(2-Methylphenyl)boronic acid, 10Cl. o-Tolueneboronic acid, 8Cl
 [16419-60-6]



M 135.957

Sol. hexane, H₂O.

O,O-Di-Me: o-Tolyldimethoxyborane.

C₉H₁₃BO₂ M 164.011

Obt. by methanolysis. Moisture-sensitive cryst. Sol.

C₆H₆. d₄²⁵ 0.980. Bp₉ 74-5°. n_D²⁵ 1.4870.Skowronska-Serafinowa, B. et al, *Rocz. Chem.*, 1961, **937**, 35 (ir)Washburn, R.M. et al, *Adv. Chem. Ser.*, 1961, **32**, 208.Beachell, H.C. et al, *Inorg. Chem.*, 1964, **3**, 1028 (nmr, pmr)Dang, Q.Q., *C.R. Hebd. Seances Acad. Sci.*, 1969, **24**, 269 (uv)Ramsey, B.G., *J. Phys. Chem.*, 1970, **74**, 2464 (props)Bullen, N.P. et al, *J. Organomet. Chem.*, 1980, **195**, 147 (synth)**C₇H₉BO₂****B-00473****Dihydroxy(3-methylphenyl)borane**

(3-Methylphenyl)boronic acid, 10Cl, 9Cl. m-Tolueneboronic acid, 8Cl
 [17933-03-8]

M 135.957

Cryst. (Et₂O). Sol. Et₂O.

▷Toxic

O,O-Di-Me: [40881-44-5]. m-Tolyldimethoxyborane.

C₉H₁₃BO₂ M 164.011

Methanolysis product. Moisture-sensitive cryst. Sol.

C₆H₆. d₂₅ 0.985. Bp₁₀ 85-6°. n_D²⁵ 1.4926.Kuivila, H.G. et al, *Can. J. Chem.*, 1963, **41**, 3081 (props, use)Beachell, H.C. et al, *Inorg. Chem.*, 1964, **3**, 1028 (nmr, pmr)Ramsey, B.G., *J. Phys. Chem.*, 1970, **74**, 2464 (props)Kajimoto, O. et al, *J. Phys. Chem.*, 1977, **81**, 1712 (props)Thorpe, F.G. et al, *J. Organomet. Chem.*, 1977, **128**, 305 (synth)Bullen, N.P. et al, *J. Organomet. Chem.*, 1980, **195**, 147 (synth)**C₇H₉BO₂****B-00474****Dihydroxy(4-methylphenyl)borane**

(4-Methylphenyl)boronic acid, 10Cl, 9Cl. p-Tolueneboronic acid, 8Cl
 [5720-05-8]

M 135.957

Corrosion inhibitor; protecting group for synthesis. Cryst. (H₂O or Et₂O). Sol. Et₂O, EtOH, C₆H₆, CDCl₃, hexane. Mp 259-60°.

▷Toxic; affects the central nervous system. XS7400000.

Bean, F.R. et al, *J. Am. Chem. Soc.*, 1932, **54**, 4415 (synth)Beachell, H.C. et al, *Inorg. Chem.*, 1964, **3**, 1028 (nmr, pmr)Ramsey, B.G., *J. Phys. Chem.*, 1970, **74**, 2464.Pham, H.C. et al, *Agressologie*, 1974, **15**, 131; *CA*, **81**, 86179x (use)Kemp, D.S. et al, *Tetrahedron Lett.*, 1975, 4629 (use)Bullen, N.P. et al, *J. Organomet. Chem.*, 1980, **195**, 147 (synth)**C₇H₉BO₂S****B-00475****Dihydroxy(phenylthiomethyl)borane**

[(Phenylthio)methyl]boronic acid, 10Cl
 [67975-88-6]

PhSCH₂B(OH)₂

M 168.017

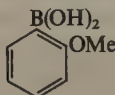
Synthetic intermed. Cryst. (Et₂O/pet. ether). Mp 109–10°.Matteson, D.S. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 1325 (*synth*, *use*)Mendoza, A. *et al*, *J. Organomet. Chem.*, 1978, **156**, 149 (*use*)Matteson, D.S. *et al*, *J. Organomet. Chem.*, 1979, **170**, 259 (*use*, *props*)Ray, R., *CA*, 1981, **95**, 42531r.C₇H₉BO₃

B-00476

Dihydroxy(2-methoxyphenyl)borane

(2-Methoxyphenyl)boronic acid, 10Cl. o-Methoxybenzeneboronic acid. o-Anisylboronic acid

[5720-06-9]



M 151.956

Solid.

▷ Affects the central nervous system and causes vasodilation

Dandegaonker, S.H. *et al*, *J. Chem. Soc.*, 1959, 2076 (*synth*)Kuivila, H.G. *et al*, *Can. J. Chem.*, 1963, **41**, 3081.Beachell, H.C. *et al*, *Inorg. Chem.*, 1964, **3**, 1028 (*nmr*, *pmr*)Eggers, C.A. *et al*, *Inorg. Chem.*, 1967, **6**, 160 (*synth*)Caujolle, F. *et al*, *Agressologie*, 1969, **10**, 155 (*use*)Bullen, N.P. *et al*, *J. Organomet. Chem.*, 1980, **195**, 147 (*synth*)C₇H₉BO₃

B-00477

Dihydroxy(3-methoxyphenyl)borane

(3-Methoxyphenyl)boronic acid, 10Cl. m-Methoxybenzeneboronic acid, 8Cl. m-Anisylboronic acid

[10365-98-7]

M 151.956

Solid. Sol. hexane, H₂O.Dandegaonker, S.H. *et al*, *J. Chem. Soc.*, 1959, 2076 (*synth*)Kuivila, H.G. *et al*, *Can. J. Chem.*, 1963, **41**, 3081 (*props*, *use*)Beachell, H.C. *et al*, *Inorg. Chem.*, 1964, **3**, 1028 (*nmr*, *pmr*)Ramsey, B.G., *J. Phys. Chem.*, 1970, **74**, 2464 (*props*)Kajimoto, O. *et al*, *J. Phys. Chem.*, 1977, **81**, 1712.C₇H₉BO₃

B-00478

Dihydroxy(4-methoxyphenyl)borane

(4-Methoxyphenyl)boronic acid, 10Cl. p-Methoxybenzeneboronic acid. p-Anisylboronic acid

[5720-07-0]

M 151.956

Used as a bactericide and chemosterilant for insects.

Cryst. (H₂O). Sol. hexane, MeCN, H₂O. Mp 208.5–209.5°, 229–30°.

▷ CY8975000.

Dandegaonker, S.H. *et al*, *J. Chem. Soc.*, 1959, 2076 (*synth*)Beachell, H.C. *et al*, *Inorg. Chem.*, 1964, **3**, 1028 (*nmr*, *pmr*)Ramsey, B.G. *et al*, *Theor. Chim. Acta*, 1970, **17**, 188 (*props*)Settepani, J.A. *et al*, *J. Med. Chem.*, 1970, **3**, 128 (*use*)Thorpe, F.G. *et al*, *J. Organomet. Chem.*, 1977, **128**, 305 (*synth*)Floris, B. *et al*, *J. Organomet. Chem.*, 1978, **150**, 101.C₇H₁₀BBr₂N

B-00479

Dibromomethylborane 4-methylpyridine

Dibromomethyl(4-methylpyridine)boron, 10Cl. Dibromo(methyl)borane γ-picoline

[69513-17-3]

As Dibromomethylborane pyridine, B-00382 with

R = CH₃

M 278.781

Solid. Mp 124–6° dec.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 1289(*synth*, *nmr*, *ir*)C₇H₁₁B

B-00481

1,3-Cyclopentadien-1-ylidimethylborane, 10Cl

1-Dimethylboryl-1,3-cyclopentadiene

[68250-27-1]



M 105.974

Fluxional behavior seen in nmr below –15°.

Characterized spectroscopically. Air-sensitive.

Johnson, H.D. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 242(*synth*, *nmr*)C₇H₁₁B

B-00480

1,4-Cyclopentadien-1-ylidimethylborane, 9Cl

2-Dimethylboryl-1,3-cyclopentadiene

[68250-29-3]

M 105.974

Fluxional behaviour seen in nmr below –15°.

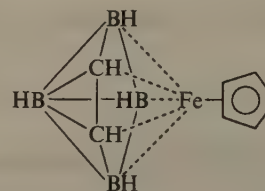
Characterised spectroscopically. Air-sensitive.

Johnson, H.D. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 242(*synth*, *nmr*)C₇H₁₁B₄Fe

B-00482

(η⁵-2,4-Cyclopentadien-1-yl)(2,3,4,5,6-η)-hexahydro-2,3-dicarbahexaborato(2–)]iron, 9Cl

[38930-35-7]



M 194.251

Brown cryst. Paramagnetic.

Sneddon, L.G. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 7161; 1973, **95**, 6623 (*synth*, *ms*, *pmr*, *nmr*)C₇H₁₂BF₆N₃

B-00483

Hexafluoroisopropylideniminobis(dimethylamino)borane

N,N,N',N'-Tetramethyl-N''-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]boranetriamine, 10Cl

[67395-53-3]

(Me₂N)₂BN=C(CF₃)₂

M 262.992

Yellow liq., sensitive to moisture. Sol. hexane. Bp₉₉ 70–3°.

Emerick, D.P. *et al*, *J. Organomet. Chem.*, 1978, **153**, 9 (*synth*, *ms*, *ir*, *nmr*, *raman*, *cmr*)
 Emerick, D.P. *et al*, *Z. Anorg. Allg. Chem.*, 1980, **468**, 44 (*nmr*, *ir*)

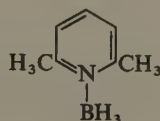
C₇H₁₂BN

B-00484

Borane 2,6-dimethylpyridine

(2,6-Dimethylpyridine)trihydroboron, 10Cl. 2,6-Dimethylpyridine, compd. with borane(1:1), 9Cl. 2,6-Lutidine, compd. with borane(1:1), 8Cl

[3999-42-6]



M 120.989

Stereoselective reducing agent. White cryst. solid. V. sol. THF, MeOH, insol. hexane. Mp 112-4° (106-7°).

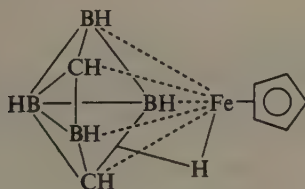
Ryschkewitsch, G.E. *et al*, *Inorg. Chem.*, 1965, **4**, 575 (*props*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 2520.Mooney, E.F. *et al*, *J. Inorg. Nucl. Chem.*, 1968, **30**, 1439 (*synth*, *nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3070 (*nmr*)Andrews, G.C. *et al*, *Tetrahedron Lett.*, 1980, **21**, 693, 697 (*use*)C₇H₁₂B₄Fe

B-00485

(η^5 -2,4-Cyclopentadien-1-yl)[(2,3,4,5,6- η)-heptahydro-2,5-dicarbaheptaborato(1-)-H^μ]iron, 9Cl

 π -Cyclopentadienyliron-2,4-C₂B₄H₆ hydride

[51177-77-6]



M 195.259

Red-orange.

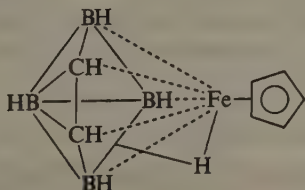
Sneddon, L.G. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6623 (*synth*, *pmr*, *ms*, *nmr*, *ir*)C₇H₁₂B₄Fe

B-00486

(η^5 -2,4-Cyclopentadien-1-yl)[(2,3,4,5,6- η)-hexahydro-2,3-dicarbaheptaborato(2-)]hydroiron, 9Cl

(η^5 -2,4-Cyclopentadien-1-yl)[(2,3,4,5,6- η)-heptahydro-4,5-dicarbaheptaborato(1-)-H^μ]iron, 9Cl

[38980-34-6]



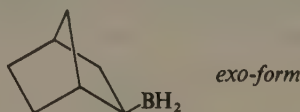
M 195.259

Diamagnetic. Orange solid. Sublimes.

Sneddon, L.G. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 7161; 1973, **95**, 6623 (*synth*, *ms*, *pmr*, *nmr*)C₇H₁₃B

B-00487

Bicyclo[2.2.1]hept-2-ylborane, 10Cl, 9Cl
 2-Norbornylborane



M 107.990

Uncomplexed material would exist as H-bridged dimer.

Exo-form [56118-55-9]Intermed. in hydroboration of norbornene with BH₃. Air- and moisture-sensitive. Sol. THF.Taniguchi, H., *Bull. Chem. Soc. Jpn.*, 1979, **52**, 2946.Taniguchi, H., *Nippon Kagaku Kaishi*, 1979, 906; *CA*, **91**, 210504x.Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 4599.C₇H₁₃BO₂

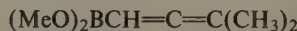
B-00488

Dimethoxy(3-methyl-1,2-butadienyl)borane

(3-Methyl-1,2-butadienyl)boronic acid dimethyl ester, 10Cl. 3,3-Dimethylallenylboronic acid dimethyl ester.

(3,3-Dimethylallenyl)dimethoxyborane

[61357-30-0]



M 139.989

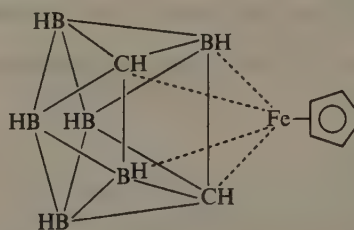
Synthetic intermed. Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs. Bp₁₂ 51.5-52°. *n*_D²⁰ 1.4502.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2062; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **25**, 1932 (*synth*, *ir*, *pmr*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2402; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **25**, 2246 (*props*)C₇H₁₃B₆Fe

B-00489

(η^5 -2,4-Cyclopentadien-1-yl)[(1,3,6,8- η)-octahydro-1,8-dicarbaoctaborato(2-)]iron, 9Cl

4-(η -Cyclopentadienyl)-4,1,8-FeC₂B₆H₈

[42808-85-5]



M 217.887

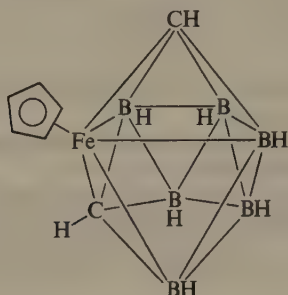
Red cryst. (hexane). Mp 132-3°. Paramagnetic. Reduced to a diamagnetic purple Fe(II) deriv.

Evans, W.J. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 4565 (*synth*, *ms*, *uv*, *ir*, *polarog*, *pmr*, *nmr*)

C₇H₁₃B₆Fe

B-00490

(η^5 -2,4-Cyclopentadien-1-yl)(3,5,6,7,8- η)-octahydro-5,6-dicarbaoctaborato(2-)]iron, 9Cl
 1-(η^5 -Cyclopentadienyl)-1,4,6-FeC₂B₆H₈. 4,6- π -Cyclopentadienyliron-C₂B₆H₈
 [42968-39-8]



M 217.887

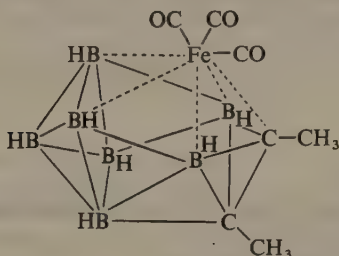
Brown cryst. (hexane). Paramagnetic. Reduced to a diamagnetic Fe(II) species.

Evans, W.J. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 4565 (*synth*, *ms*, *uv*, *ir*, *polarog*, *pmr*, *nmr*)

C₇H₁₃B₇FeO₃

B-00491

Tricarbonyl[η^5 -heptahydro-C, C'-dimethyldicarbanonaborato(2-)]iron, 10Cl
 2,1,4-(Tricarbonyliron)-1,4-dimethyl-C₂B₇H₇
 [64103-53-3]



M 276.695

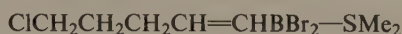
Air-stable, light-sensitive bright-yellow cryst. (hexane). Bp_{0.00001} 25° subl.

Maxwell, W.M. *et al*, *Inorg. Chem.*, 1977, **16**, 3094 (*synth*, *ir*, *ms*, *nmr*, *pmr*)

C₇H₁₄BBr₂ClS

B-00492

Dibromo(5-chloro-1-pentenyl)borane dimethyl sulfide
 Dibromo(5-chloro-1-pentenyl)[thiobis(methane)]boron, 10Cl. 5-Chloro-1-penten-1-yl dibromoborane dimethyl sulfide



M 336.319

(E)-form [72228-64-9]

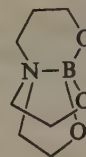
Prepd. *in situ* by hydroboration of 1-pentane with Br₂BH—SMe₂. Synthetic intermediate. Air- and moisture-sensitive liq. Bp_{0.08} 60-2° part. dec.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 389 (*synth*, *nmr*)

C₇H₁₄BNO₃

B-00493

[3-[Bis(2-hydroxyethyl)amino]-1-propanolato(3-)-N, O, O', O'']boron, 10Cl, 9Cl
 [3-[Bis(2-hydroxyethyl)amino]-1-propanolato(3-)]-boron, 8Cl
 [27952-41-6]



M 171.003

Ger. Pat., 1 908 844, (1969); *CA*, **72**, P4052c

Lukevics, E. *et al*, *CA*, 1975, **83**, 193247f.

U.S.S.R. Pat., 504 776, (1976); *CA*, **85**, P33020g

Mazeika, I. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 2728 (*ms*)

Shatz, V.D. *et al*, *J. Chromatogr.*, 1980, **200**, 105.

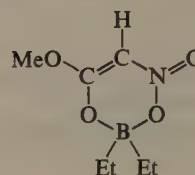
C₇H₁₄BNO₄

B-00494

Diethyl(methylnitroacetato)borane

Diethyl(methyl nitroacetato-O^{1'}, O²)boron, 10Cl.

[Diethylboryl]-aci-nitroacetic acid methyl ester, 9Cl
 [62945-91-9]



M 187.002

Exists in intramol. coord. form as shown. Air- and moisture-sensitive liq. Mp -30°.

Shitov, O.P. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974, 2782; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2684 (*synth*, *nmr*)

Ioffe, S.L. *et al*, *CA*, 1977, **87**, 23357g (*synth*)

Ioffe, S.L. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1172; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1019 (*nmr*)

Suggestions for new Entries are welcomed. Please write to the Editor, Dictionary of Organometallic Compounds, Chapman and Hall Ltd, 11 New Fetter Lane, London EC4P 4EE

C₇H₁₅B

Diethyl-2-propenylborane, 10Cl, 9Cl

Allyldiethylborane

[18759-99-4]



M 110.006

Synthetic intermed. Air- and moisture-sensitive liq. Sol.

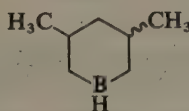
THF. Bp₃₈ 40-2°. n_D^{20} 1.4152. ¹¹B nmr δ -83.8 ppm.

▷ Probably pyrophoric

Bubnov, Y.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2842 (use)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586, 1594, 1892 (synth, use)Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, 154, 113, 131 (synth, use, props)C₇H₁₅B

3,5-Dimethylborinane, 9Cl, 8Cl

[39546-62-8]



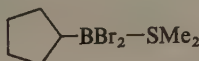
M 110.006

Used in hydroboration. Bp₁ 79-82°. Dimeric, mixt. of *cis*- and *trans*-isomers.Zweifel, G. *et al*, *Synthesis*, 1972, 557 (use)Negishi, E. *et al*, *J. Am. Chem. Soc.*, 1973, 95, 6757 (synth)Brown, H.C., *Organic Syntheses via Boranes*, 1975, Wiley, N.Y., 34 (synth)C₇H₁₅BBr₂S

Dibromocyclopentylborane dimethyl sulfide

Dibromocyclopentyl[thiobis(methane)]boron, 10Cl. Cyclopentylidibromoborane dimethyl sulfide

[64770-10-1]



M 301.874

Solid at 25°, but may contain uncomplexed material; air- and moisture-sensitive. Bp_{2.1} 140-4°.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1977, 99, 7097 (synth)Brown, H.C. *et al*, *J. Org. Chem.*, 1980, 45, 384.C₇H₁₅BCl₂N₂

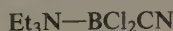
Dichlorocyanoborane triethylamine

Dichloro(cyano-C)(N,N-diethylethanamine)boron, 10Cl.

Dichloroborane carbonitrile N,N-diethylethanamine.

Triethylamine dichlorocyanoborane

[67374-62-3]



M 208.925

Air- and moisture-sensitive solid. Mp 59-63°.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, 40, 9 (synth, ir, nmr)

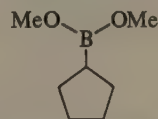
B-00496

C₇H₁₅BO₂

Cyclopentylidimethoxyborane

Cyclopentylboronic acid dimethyl ester, 10Cl, 9Cl. Dimethyl cyclopentaneboronate. Dimethyl cyclopentylboronate

[41156-60-9]



M 142.004

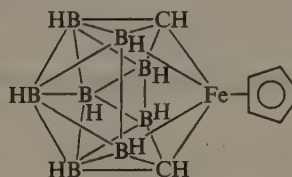
Synthetic intermed. Air- and moisture-sensitive liq. Sol.

THF. Bp₄₀ 76-8°.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1973, 95, 2396; 1975, 97, 2791; 1976, 98, 1798 (synth, props)Taniguchi, H., *Bull. Chem. Soc. Jpn.*, 1979, 52, 2946 (nmr)Brown, H.C. *et al*, *J. Org. Chem.*, 1980, 45, 384 (synth, props)

B-00497

C₇H₁₅B₈Fe(η⁵-2,4-Cyclopentadien-1-yl)((5,6,7,8,9,10-η)-decahydro-6,9-dicarbadeborato(2-))iron, 10Cl1,2,3-π-Cyclopentadienyliron-C₂B₈H₁₀

[42769-15-3]



Proposed structure

M 241.523

Red-brown needles (CH₂Cl₂/hexane). Mp 275-7°.

Paramagnetic. May be reduced to diamagnetic species.

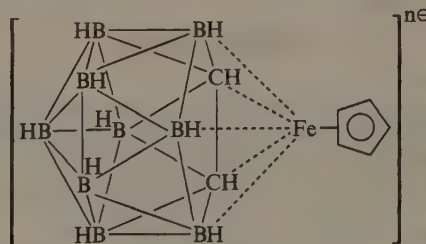
Evans, W.J. *et al*, *J. Am. Chem. Soc.*, 1973, 95, 4565 (synth, uv, ir, ms, polarog)

B-00498

C₇H₁₆B₉Fe⁺(η⁵-2,4-Cyclopentadien-1-yl)((7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-))ferrate(1-), 9Cl

[Undecahydrodicarbadeborato(2-)]cyclopentadienylferrate(2-)

[37185-23-2]



n = 1

M 253.340 (ion)

Diamagnetic.

Tetramethylammonium salt:

C₁₁H₂₈B₉FeN M 327.486

Orange plates (EtOH). Mp 158°.

Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1968, 90, 879 (synth, pmr, uv, ir)

B-00499

C₇H₁₆B₉Fe(η⁵-2,4-Cyclopentadien-1-yl)((7,8,9,10,11-η)-undecahydro-7,9-dicarbaundecaborato(2-))ironπ-Cyclopentadienyl-(π-7,9-B₉C₂H₁₁)iron

B-00503

[40958-61-0]

M 253.340

Green. Paramagnetic. Can be reduced to diamagnetic Fe(II) species.

Dustin, D.F. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 1109 (*synth*, *pmr*, *ir*, *nmr*)Wiersema, R.J. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 761 (*esr*)C₇H₁₇BN₂

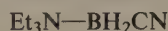
B-00504

Cyanoborane triethylamine

(Cyano-C)(N,N-diethylethanamine)dihydroboron, 10Cl.

Boranecarbonitrile, compd. with N,N-diethylethanamine(1:1)

[67374-58-7]



M 140.035

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (*synth*, *nmr*, *ir*)C₇H₁₇BO

B-00505

Methoxydipropylborane

Dipropylborinic acid methyl ester, 10Cl, 8Cl

[2938-89-8]



M 128.021

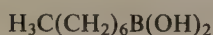
Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs. d_{20}^{20} 0.773. Bp_{44} 55.5-56°. n_D^{20} 1.4023.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1959, 172 (*synth*, *props*)Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1959, **29**, 1648 (*synth*, *props*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1960, 1872; 1962, 628, 1756.Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth*, *props*)C₇H₁₇BO₂

B-00506

Heptyldihydroxyborane

Heptylboronic acid, 10Cl, 9Cl. 1-Heptaneboronic acid, 8Cl

[28741-07-3]



M 144.020

Alk. proteinase inhibitor. Colourless and odourless solid (toluene). Almost insol. H₂O. $\text{Mp} \sim 70^\circ$ (sinters), 81-3° dec.Torssell, K. *et al*, *Acta Chem. Scand.*, 1957, **11**, 404.Rotanova, T.V. *et al*, *Int. J. Pept. Protein Res.*, 1976, **8**, 225.Rotanova, T.V. *et al*, *Bioorg. Khim.*, 1978, **4**, 694.Jarv, J. *et al*, *Bioorg. Khim.*, 1978, **4**, 1364.Gmshinskii, I.V. *et al*, *Bioorg. Khim.*, 1982, **8**, 822.C₇H₁₇BS

B-00507

Dipropyl(methylthio)borane

Dipropylthioborinic acid methyl ester, 10Cl. (Methylthio)-dipropylborane

[3765-14-8]



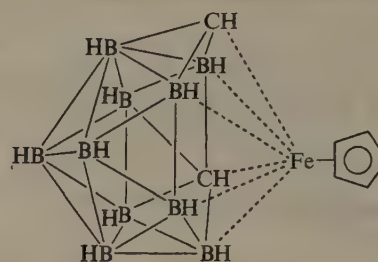
M 144.081

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs. Bp_7 44-9°. n_D^{20} 1.4659.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1965, 1487.Costes, J.P. *et al*, *J. Organomet. Chem.*, 1979, **175**, 257 (*props*)C₇H₁₇B₁₀Fe

B-00508

(η⁵-2,4-Cyclopentadien-1-yl)[η⁶-dodecahydrodicarbododecaborato(2-)]iron, 9Cl(η⁵-2,4-Cyclopentadien-1-yl)[(7,8,9,10,11,12-η)-dodecahydro-7,9-dicarbododecaborato(2-)]iron

[41077-34-3]

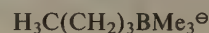


M 265.158

Paramagnetic. Violet. $\mu_{\text{eff}} = 2.12\text{BM}$. Easily reduced to an orange diamagnetic anionic Fe(II) species.Dustin, D.F. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 1109 (*synth*, *polarog*, *pmr*, *nmr*, *uv*, *ir*)C₇H₁₈B[⊖]

B-00509

Butyltrimethylborate(1-), 10Cl



M 113.029 (ion)

Li salt: [65859-85-0].

C₇H₁₈BLi M 119.970

Used in battery electrolytes.

U.S.P., 4 060 674, (1977); CA, **88**, 107897s (use)Klemann, L.P. *et al*, *Proc. Electrochem. Soc.*, 1981, **81-4**, 179; CA, **95**, 153786x (use)C₇H₁₈B[⊖]

B-00510

Triethylmethylborate(1-), 10Cl



M 113.029 (ion)

Li salt: [26282-82-6].

C₇H₁₈BLi M 119.970Prepd. *in situ* from Et₃B + MeLi.

Cu(I) salt: [65167-44-4].

C₇H₁₈BCu M 176.575

Obt. by reacn. of Li salt with CuI. Synthetic intermed.

Suzuki, A. *et al*, *Tetrahedron Lett.*, 1969, 2955.Maruyama, K. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 8068.Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 2318.U.S.P., 4 216 192, (1980); CA, **93**, 188617dHorowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 131;CA, **95**, 118331y.C₇H₁₉BN₂

B-00511

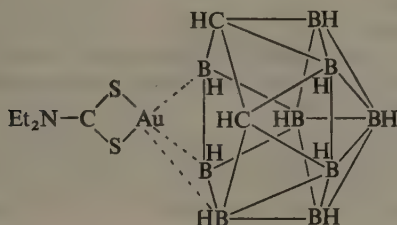
Isopropylbis(dimethylamino)borane

N,N,N',N'-Tetramethyl-1-(1-methylethyl)boranediamine, 10Cl

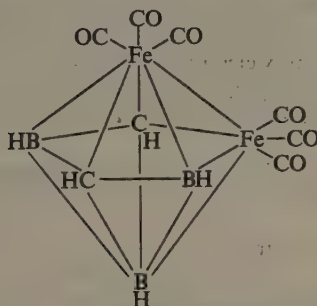
[65478-40-2]



M 142.051

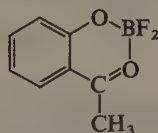
Liq., mod. air- and moisture-sensitive. Bp 145.5°, Bp₂₇ 62°.Paetzold, P. *et al*, *Chem. Ber.*, 1977, **110**, 3678 (*synth*, *pmr*, *cmr*, *nmr*, *ms*)Hoffmann, R.W. *et al*, *J. Org. Chem.*, 1981, **46**, 1309 (*synth*, *pmr*)**C₇H₂₁AuB₉NS₂****B-00512****(Diethylcarbamodithioato-S,S')(9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]gold**
[62572-50-3]

M 477.626

"Slipped" dicarbollide ligand in struct. Orange cryst. (CH₂Cl₂/pentane). Sol. CH₂Cl₂. Mp 115° dec.Colquhoun, H.M. *et al*, *J. Chem. Soc., Dalton Trans.*, 1978, 303 (*synth*, *cryst struct*, *nmr*)**C₈H₅B₃Fe₂O₆****B-00513****Hexacarbonyl[μ-[(1,4,5-η:2,3,4,5-η)-pentahydro-2,4-dicarbapentaborato(2-)]diiron, 9Cl**
1,2,3,5-(Hexacarbonyldiiron)-C₂B₃H₅
[59421-56-0]

M 341.248

Orange liq.

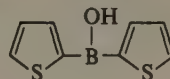
Miller, V.R. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 3090 (*synth*, *ir*, *pmr*, *nmr*)**C₈H₇BF₂O₂****B-00514****Difluoro(2-acetylphenoxy)borane****Difluoro[1-(2-hydroxyphenyl)ethanone-O,O']boron, 10Cl. Difluoro(2'-hydroxyacetophenonato)boron, 8Cl**
[14974-24-4]

M 183.949

Exists in intramol. coord. form as shown. Used as a catalyst for curing epoxy resins. Yellow cryst. (PhCl/pet. ether), with bluish-grey fluorescence. Mp 142-5°.

Ried, W. *et al*, *Tetrahedron Lett.*, 1962, 247 (*synth*, *ir*)Durdin, J.A. *et al*, *J. Org. Chem.*, 1965, **30**, 1684 (*synth*)Umland, F. *et al*, *Chem. Ber.*, 1973, **106**, 2427 (*synth*, *uv*, *ir*)Hohaus, E., *Z. Naturforsch.*, **B**, 1976, **31**, 324 (*ms*)Shapet'ko, N.N. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1977, **234**, 876 (*cmr*)Reynolds, G.A. *et al*, *J. Heterocycl. Chem.*, 1979, **16**, 369.**C₈H₇BOS₂****B-00515****Hydroxybis(2-thienyl)borane****Di-2-thienylborinic acid, 10Cl, 9Cl**

[41816-82-4]

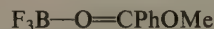


M 194.073

Bactericide.

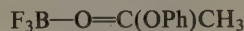
Fr. Pat., 2 140 127, (1973); *CA*, **79**, 42677n (*synth*, *use*)Bailey, P.J. *et al*, *Antimicrob. Agents Chemother.*, 1980, **17**, 549 (*props*, *use*)**C₈H₈BF₃O₂****B-00516****Trifluoroborane methyl benzoate****Trifluoro(methyl benzoate-O')boron, 10Cl. Benzoic acid methyl ester compd. with boron fluoride(BF₃)(1:1), 8Cl. Benzoic acid methyl ester compd. with BF₃(1:1), 7Cl**

[325-51-9]



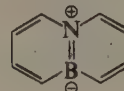
M 203.955

Moisture-sensitive.

Csuros, Z. *et al*, *Periodica Polytechnica*, 1964, **8**, 1; *CA*, **61**, 12632h.Taillandier, M. *et al*, *J. Mol. Struct.*, 1968, **2**, 437 (*nmr*, *ir*)Gal, J.F. *et al*, *Bull. Soc. Chim. Fr.*, 1979, 311.Hartman, J.S. *et al*, *Inorg. Chim. Acta*, 1980, **44**, L39; 1981, **49**, 63 (*nmr*)**C₈H₈BF₃O₂****B-00517****Trifluoroborane phenyl acetate****Trifluoro(phenyl acetate-O')boron, 10Cl. Acetic acid phenyl ester compd. with boron fluoride(BF₃)(1:1), 8Cl**
[30844-81-6]

M 203.955

Moisture-sensitive solid. Mp 40-55°.

Topchii, V.A. *et al*, *Zh. Obshch. Khim.*, 1970, **40**, 1334.Borovikov, Y.Y. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 2531.Hartman, J.S. *et al*, *Inorg. Chim. Acta*, 1981, **49**, 63.**C₈H₈BN****B-00518****10,9-Borazonaphthalene****Azaborino[1,2-a][1,2]azaborine, 9Cl**
[1425-58-7]

M 128.968

Flakes with naphthalenic odour. Mp 48-9°. Subl. λ_{max} 236 (log ε 4.509), 242 (4.657) and 248 nm (4.487) (EtOH).*Picrate*: Yellow powder (EtOH). Mp 133.5-134.5°.

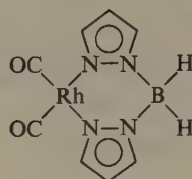
- Davis, F.A. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 706.
 Dewar, M.J.S. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 2137 (*synth*, *pmr*, *ms*)
 Davis, F.A. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 2094.

C₈H₈BN₄O₂Rh**B-00519**

Dicarbonyl[dihydrobis(1*H*-pyrazolato-*N'*)borato(1-)-*N*³,*N*^{3'}]rhodium, 10CI

Dicarbonyl[bis(pyrazolyl)borato]rhodium

[33058-09-2]



M 305.892

Catalyst for the hydroformylation of alkenes. Yellow cryst. (hexane). Mp 71° (66°). *ir* ν_{CO} 2088s, 2022s cm^{-1} (hexane).

King, R.B. *et al*, *J. Organomet. Chem.*, 1974, **73**, 115 (*synth*, *ir*, *pmr*)

Bonati, F. *et al*, *J. Organomet. Chem.*, 1975, **87**, 365 (*synth*, *pmr*, *ir*, *uv*, *ms*)

Cocivera, M. *et al*, *Organometallics*, 1982, **1**, 1125 (*ir*, *synth*)

C₈H₉BO₂**B-00520**

Dihydroxy(2-phenylethenyl)borane

(2-Phenylethenyl)boronic acid, 10CI, 9CI, 8CI. β -Styreneboronic acid. 2-Phenyletheneboronic acid.

β -Styryldihydroxyborane

[4363-35-3]



M 147.968

Synth. intermed.

(*E*)-form [6783-05-7]

Solid. Mp 168-9°.

(*Z*)-form [60806-02-2]

Sazonova, V.A. *et al*, *Zh. Obshch. Khim.*, 1956, **26**, 1876 (*synth*)

Joy, F. *et al*, *J. Organomet. Chem.*, 1966, **5**, 506 (*synth*, *ir*)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 4370; 1973, **95**, 5786; 1975, **97**, 5249 (*synth*, *use*)

Matteson, D.S. *et al*, *J. Organomet. Chem.*, 1976, **110**, 25 (*synth*)

Matteson, D.S. *et al*, *J. Organomet. Chem.*, 1976, **114**, 1 (*pmr*)

Raucher, S. *et al*, *J. Org. Chem.*, 1978, **43**, 4885 (*synth*)

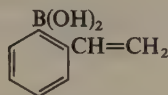
Rao, V.V.R. *et al*, *J. Organomet. Chem.*, 1979, **179**, C7 (*use*)

C₈H₉BO₂**B-00521**

(2-Ethenylphenyl)dihydroxyborane

(2-Ethenylphenyl)boronic acid, 10CI. *o*-Vinylbenzeneboronic acid. *o*-Styrylboronic acid. *o*-Vinylphenylboronic acid

[15016-42-9]



M 147.968

Useful as binder for paper, glass, wood and rubber. White plates (H₂O). Mp 111-2° (108-9°).

Letsinger, R.L. *et al*, *J. Org. Chem.*, 1961, **26**, 1271 (*synth*, *ir*)

Wesley, J.D. *et al*, *J. Org. Chem.*, 1962, **27**, 2598 (*ir*, *synth*, *props*)

U.S.P., 3 025 274, (1962); *CA*, **57**, 6143b (*use*)

Ger. Pat., 1 147 230, (1963); *CA*, **59**, 10117e (*use*, *synth*)

Armstrong, D.R. *et al*, *J. Chem. Soc. (A)*, 1967, 123 (*struct*, *uv*, *props*)

C₈H₉BO₂**B-00522**

(3-Ethenylphenyl)dihydroxyborane

(3-Ethenylphenyl)boronic acid, 10CI. *m*-Vinylbenzeneboronic acid, 8CI. *m*-Styrylboronic acid. *m*-Vinylphenylboronic acid

[15016-43-0]

M 147.968

Binder for paper, glass, wood and rubber. Used as adhesive and in production of optical devices. White plates (H₂O). Mp 145-60° (144-5°).

Wesley, J.D. *et al*, *J. Org. Chem.*, 1962, **27**, 2598 (*synth*, *ir*)

U.S.P., 3 025 274, (1962); *CA*, **57**, 6143b (*use*)

Ger. Pat., 1 147 230, (1963); *CA*, **59**, 10117e (*use*, *synth*)

Armstrong, D.R. *et al*, *J. Chem. Soc. (A)*, 1967, 123 (*struct*, *uv*, *props*)

Rajwar, D.C. *et al*, *CA*, 1980, **93**, 174751f (*props*)

C₈H₉BO₂**B-00523**

(4-Ethenylphenyl)dihydroxyborane

(4-Ethenylphenyl)boronic acid, 10CI, 9CI. *p*-Vinylbenzeneboronic acid, 8CI. *p*-Styrylboronic acid. *p*-Vinylphenylboronic acid

[2156-04-9]

M 147.968

Binder for paper, glass, wood and rubber. Used as adhesive and in production of optical devices; forms copolymers with styrene. Cryst. (H₂O). Mp 188-9°.

Hawkins, R.T. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 3053 (*pmr*)

Wesley, J.D. *et al*, *J. Org. Chem.*, 1962, **27**, 2598 (*synth*, *ir*)

U.S.P., 3 025 274, (1962); *CA*, **57**, 6143b (*use*)

Ger. Pat., 1 147 230, (1963); *CA*, **59**, 10117e (*use*, *synth*)

Armstrong, D.R. *et al*, *J. Chem. Soc. (A)*, 1967, 123 (*struct*, *uv*, *props*)

Hartmann, M. *et al*, *Makromol. Chem.*, 1976, **177**, 131; *CA*, **84**, 74704p (*use*)

C₈H₁₁BBrN**B-00524**

Bromo(dimethylamino)phenylborane, 8CI

1-Bromo-*N,N*-dimethyl-1-phenylboranamine, 10CI

[16548-71-3]



M 211.896

Air- and moisture-sensitive liq. Bp_{0.8} 63°. *n*_D²⁰ 1.5554.

Lappert, M.F. *et al*, *J. Chem. Soc. (A)*, 1967, 854; 1968, 554 (*synth*, *nmr*, *pmr*)

Barfield, P.A. *et al*, *Trans. Faraday Soc.*, 1968, **64**, 2571 (*nmr*)

Meller, A. *et al*, *Monatsh. Chem.*, 1977, **108**, 1279.

Paetzold, P. *et al*, *Chem. Ber.*, 1977, **110**, 3678 (*ms*, *nmr*)

Maringele, W., *Z. Anorg. Allg. Chem.*, 1980, **468**, 99.

C₈H₁₁BClN**B-00525**

Chloro(dimethylamino)phenylborane, 8CI

1-Chloro-*N,N*-dimethyl-1-phenylboranamine, 10CI, 9CI

[1196-44-7]



M 167.445

Air- and moisture-sensitive liq. Bp₁ 40°. n_D^{20} 1.5324.

Brotherton, R.J. *et al*, *Inorg. Chem.*, 1962, **1**, 749 (*synth*)
 Friebolin, H. *et al*, *Org. Magn. Reson.*, 1976, **8**, 287; 1977, **10**, 157 (*nmr*)
 Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)
 Cragg, R.H. *et al*, *J. Organomet. Chem.*, 1981, **217**, 1; 1982, **232**, 201 (*synth*, *nmr*, *pmr*)

C₈H₁₁BNO[−]

B-00526

Trihydro(*N*-phenylacetamidato-*O*)borate(1−), 10Cl, 9Cl



M 147.991 (ion)

Na salt: [60542-50-9]. Sodium acetanilidoborohydride.

C₈H₁₁BNNaO M 170.981

Reducing agent, reduces esters, aldehydes and ketones to alcohols. Cryst. solid.

Kikugawa, Y., *Chem. Pharm. Bull.*, 1976, **24**, 1059, 1939.

Kikugawa, Y., *CA*, 1979, **91**, 38304u; *CA*, 1981, **95**, 150080b.

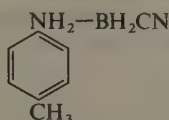
C₈H₁₁BN₂

B-00527

Cyanoborane 4-methylaniline

(Cyano-*C*)dihydro(4-methylbenzenamine)boron, 10Cl.

Boranecarbonitrile, compd. with 4-methylbenzenamine(1:1). Cyanoborane *p*-toluidine [66632-45-9]



M 145.998

White cryst. solid (THF/pet. ether). Mp 134°.

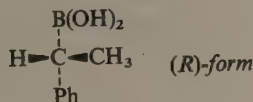
Wisian-Neilson, P. *et al*, *Inorg. Chem.*, 1978, **17**, 2327 (*synth*, *pmr*, *ir*)

C₈H₁₁BO₂

B-00528

Dihydroxy(1-phenylethyl)borane

(1-Phenylethyl)boronic acid, 10Cl. 1-Phenylethaneboronic acid



M 149.984

Powerful bifunctional reversible inhibitor of enzyme systems. Some papers referring to this compd. are indexed incorrectly under 2-phenylethylboronic acid in *CA*.

▷Toxic

(*R*)-form

[α]_D −14.8° (C₆H₆).

Matteson, D.S. *et al*, *J. Am. Chem. Soc.*, 1965, **87**, 2587 (*use*, *props*)

Davies, A.G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1966, 298 (*use*, *props*)

C₈H₁₁BO₂

B-00529

Dihydroxy(2-phenylethyl)borane

(2-Phenylethyl)boronic acid, 10Cl. (2-Phenylethane)boronic acid, 8Cl

[34420-17-2]



M 149.984

Enzyme inhibitor. Sol. CHCl₃.

▷Toxic

Ger. Pat., 1 111 181, (1958); *CA*, **56**, 8742i (*synth*)

Kochler, K.A. *et al*, *Biochemistry*, 1974, **13**, 5345 (*use*)

Byers, L.D., *Bioorg. Chem.*, 1978, **7**, 15 (*use*)

Rotonova, T.V., *Bioorg. Khim.*, 1978, **4**, 694 (*use*)

C₈H₁₁BO₂

B-00530

Dimethoxyphenylborane

Phenylboronic acid dimethyl ester, 10Cl, 9Cl. Benzeneboronic acid dimethyl ester, 8Cl. Phenylmethoxyborane [13471-35-7]



M 149.984

Liq., sensitive to moist air. Sol. non-hydroxylic solvs. Bp₉ 71-2°. n_D^{20} 1.478.

Burch, J.E. *et al*, *Spectrochim. Acta*, 1962, **18**, 1403 (*ir*, *struct*)

Laurent, J.P., *C.R. Hebd. Seances Acad. Sci.*, 1962, **254**, 866 (*synth*, *props*)

Jefferson, R. *et al*, *J. Chem. Soc. (A)*, 1966, 1584 (*props*)

Wieber, M. *et al*, *Z. Anorg. Allg. Chem.*, 1974, **403**, 107 (*synth*)

Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)

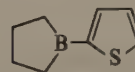
Goetze, R. *et al*, *Chem. Ber.*, 1981, **114**, 1884 (*nmr*)

C₈H₁₁BS

B-00531

1-(2-Thienyl)borolane, 10Cl, 9Cl

[59073-91-5]



M 150.045

Air-sensitive.

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*nmr*)

Schmidt, A. *et al*, *Z. Naturforsch., B*, 1978, **33**, 855.

Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)

C₈H₁₁BS₂

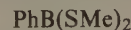
B-00532

Bis(methylthio)phenylborane

Phenyldithioboronic acid dimethyl ester, 10Cl, 9Cl. Di-thiobenzeneboronic acid dimethyl ester, 8Cl.

Phenylbis(methylthio)borane

[17381-61-2]



M 182.105

Liq., sensitive to moist air. Sol. non-hydroxylic solvs. Bp_{4.5} 107-9°. n_D^{26} 1.5979.

Schmidt, M. *et al*, *Chem. Ber.*, 1968, **101**, 281 (*synth*)

Vahrenkamp, H., *J. Organomet. Chem.*, 1971, **28**, 181 (*ir*, *raman*)

Cragg, R.H. *et al*, *J. Inorg. Nucl. Chem.*, 1973, **35**, 3685 (*synth*, *props*, *ms*, *ir*, *nmr*)

Nöth, H. *et al*, *Z. Anorg. Allg. Chem.*, 1975, **418**, 97 (*props*)

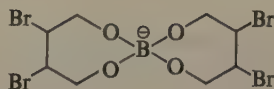
Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)

Goetze, R. *et al*, *Chem. Ber.*, 1981, **114**, 1884 (*nmr*)

C₈H₁₂BBR₄O₄[⊖]

B-00533

Bis[2,3-dibromo-1,4-butanediolato(2-)-O,O']borate(1-), 10Cl



M 502.606 (ion)

Guanidinium salt: [74211-02-2]. Hydrogen bis[2,3-dibromo-1,4-butanediolato(2-)-O,O']borate(1-)-compd. with guanidine (1:1), 10Cl. Guanidinium bis(2,3-dibromo-1,4-butanediolato)borate.

C₉H₁₈BBR₄N₃O₄ M 562.685

Flame retardant for urethane polymers, epoxy resins and polyesters.

Eur. Pat., 5 497, (1979); CA, 93, 46174h (use)

Austrian Pat., 357 336, (1980); CA, 93, 151192k (use)

Austrian Pat., 358 063, (1980); CA, 94, 103330c

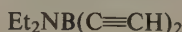
C₈H₁₂BN

B-00534

(Diethylamino)diethynylborane

N,N-Diethyl-1,1-diethynylboranamine, 10Cl

[62705-36-6]



M 133.000

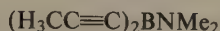
Air- and moisture-sensitive liq. Bp₁₈ 54-6°.Wrackmeyer, B. *et al*, *Chem. Ber.*, 1977, **110**, 1086 (nmr, pmr)Berger, H.O. *et al*, *Chem. Ber.*, 1980, **113**, 1235 (synth)C₈H₁₂BN

B-00535

Dimethylaminodi-1-propynylborane

N,N-Dimethyl-1,1-di-1-propynylboranamine, 10Cl

[62654-64-2]



M 133.000

Air- and moisture-sensitive solid. Mp 64-6°. Bp_{0.1} 29°.Nöth, H. *et al*, *Chem. Ber.*, 1977, **110**, 1086 (synth, nmr)Nöth, H. *et al*, *Chem. Ber.*, 1980, **113**, 1235 (nmr)C₈H₁₂BN

B-00536

Dimethyl(phenylamino)borane

1,1-Dimethyl-N-phenylboranamine, 10Cl, 9Cl. Anilinodimethylborane, 8Cl. B-Dimethyl-N-phenylborazene

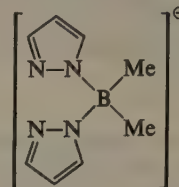
[4011-26-1]



M 133.000

Colourless liq., darkens in air. Bp 184° (175°) (extrap.); Bp₁₂ 77°.Wiberg, E. *et al*, *Z. Anorg. Allg. Chem.*, 1948, **257**, 138 (synth)Becher, H.J.; *Z. Anorg. Allg. Chem.*, 1957, **289**, 262 (synth, ir)Nöth, H. *et al*, *Z. Naturforsch.*, B, 1961, **166**, 470 (synth)Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (nmr)Nöth, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (nmr)C₈H₁₂BN₄[⊖]

B-00537

Dimethylbis(1H-pyrazolato-N')borate(1-), 9Cl
Dimethylbis(1-pyrazolyl)borate

M 175.020 (ion)

Na salt: [56953-94-7].

C₈H₁₂BN₄Na M 198.009

Used in metal complex formn.

Breakell, K.R. *et al*, *J. Chem. Soc., Dalton Trans.*, 1975, 749 (synth)C₈H₁₃BN₂

B-00538

Bis(methylamino)phenylborane, 8Cl

N,N'-Dimethyl-1-phenylboranediamine.

Bis(methylamino)phenylborine

[19125-66-7]



M 148.014

Wrongly named as N,N-dimethyl-1-phenylboranediamine, 10Cl, 9Cl. Liq., sensitive to moist air. d₄²⁰ 0.965. Bp₁₆ 106-7°. n_D²⁰ 1.5275.

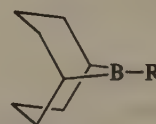
Burch, J.E. *et al*, *J. Chem. Soc.*, 1962, 2200.Burch, J.E. *et al*, *Spectrochim. Acta*, 1962, **18**, 1403 (ir, struct)Barfield, P.A. *et al*, *J. Chem. Soc. (A)*, 1968, 554.Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (nmr)Niedenzu, K. *et al*, *Z. Anorg. Allg. Chem.*, 1978, **439**, 112 (nmr)Goetze, R. *et al*, *Chem. Ber.*, 1981, **114**, 1884 (nmr)C₈H₁₄BBr

B-00539

9-Bromo-9-borabicyclo[3.3.1]nonane, 10Cl

B-Bromo-9-BBN

[22086-45-9]



R = Br

M 200.913

Reagent for cleavage of ethers. Colourless viscous liq., air- and moisture-sensitive. Bp₁₀ 90-2°, Bp_{1.0} 64-5°.

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1968, **719**, 169 (synth)Brown, H.C. *et al*, *Tetrahedron Lett.*, 1977, 3007 (synth)Bhatt, M.V., *J. Organomet. Chem.*, 1978, **156**, 221 (synth, nmr)Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2422 (synth)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **168**, 281 (synth, nmr)Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 3978 (nmr)C₈H₁₄BCl

B-00540

9-Chloro-9-borabicyclo[3.3.1]nonane, 10Cl

B-Chloro-9-BBN

[22086-34-6]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with

R = Cl

M 156.462

Air- and moisture-sensitive solid. Mp 25-8°, 37°. Bp_{1.0} 54-6°, Bp_{0.3} 37-40°, 41-3°.Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **719**, 169 (synth)Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1 (synth, nmr, pmr)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **168**, 281 (synth, pmr)Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2422; 1980, **45**, 846 (synth, nmr)C₈H₁₄BN

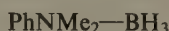
B-00541

Borane *N,N*-dimethylaniline

(N,N-Dimethylbenzenamine)trihydroboron, 10Cl. N,N-Dimethylbenzenamine compd. with borane(1:1), 9Cl.

N,N-Dimethylaniline compd. with borine

[1769-74-0]



M 135.015

Tested as rocket fuel.

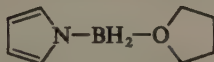
Mikheeva, V.I. *et al*, *Zh. Neorg. Khim.*, 1957, **2**, 604.B.P., 889 599, (1962); CA, **61**, P9198dFr. Pat., 1 350 849, (1964); CA, **60**, P14327fAshby, E.C., *J. Organomet. Chem.*, 1965, **3**, 371.Beachley, O.T. *et al*, *Inorg. Chem.*, 1973, **12**, 1128.C₈H₁₄BNO

B-00542

1-Pyrrolylborane tetrahydrofuran

Dihydro-1H-pyrrol-1-yl(tetrahydrofuran)boron, 10Cl

[58178-51-1]



M 151.015

Prepd. from pyrrole and borane-THF. Cannot be isol. on evap. of solv.

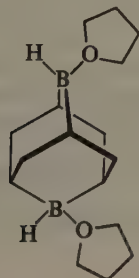
Ioffe, S.L. *et al*, *Khim. Geterotsikl. Soedin.*, 1971, **7**, 1056; CA, **76**, 25012n (synth, ir, nmr)Gyori, B. *et al*, *Acta Chim. Acad. Sci. Hung.*, 1975, **86**, 235 (synth)Añez, M. *et al*, *Synthesis*, 1981, 214.C₈H₁₄B₂

B-00543

2,6-Diboratricyclo[3.3.1.1^{3,7}]decane, 10Cl

2,6-Diboraadamantane

[69961-38-2]



THF complex

M 131.819

Free borane unknown.

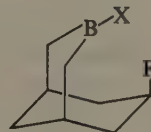
Bis-THF complex: [69961-39-3]. [μ -(1,3,5,7-Cyclooctanetetrayl-C¹,C⁵:C³,C⁷)]dihydrobis(tetrahydrofuran)diboron, 10Cl.C₁₆H₃₀B₂O₂ M 276.032Cryst. (pentane/CH₂Cl₂). Prob. air-sensitive. Mp 145-7°. Unusually strong THF complex; other complexes also reported.Kulkarni, S.U. *et al*, *J. Org. Chem.*, 1979, **44**, 1747 (synth, struct, props, nmr)C₈H₁₅B

B-00544

3-Borabicyclo[3.3.1]nonane, 10Cl

3-BBN

[4632-82-0]



X = R = H

M 122.017

Probably exists as dimer in uncomplexed state. Air- and moisture-sensitive.

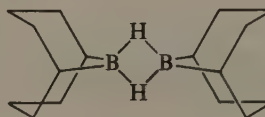
Bubnov, Yu.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1968, 824 (synth)C₈H₁₅B

B-00545

9-Borabicyclo[3.3.1]nonane, 10Cl, 9Cl

9-BBN

[280-64-8]



Dimer

M 122.017

Dimeric both as solid and in soln. in most solvs. Unknown as the monomer except in form of complexes.

Dimer: [70658-61-6].

C₁₆H₃₀B₂ M 244.033Important selective hydroborating agent. Cryst. (1,2-dimethoxyethane); remarkably stable to air though dec. slowly. Sol. THF (0.29M at 25°), 1,2-dimethoxyethane (0.07M at 25°). Mp 153-5° (142°). ir ν_{max} 1570 cm⁻¹.

▷ Flammable

THF complex: [76422-63-4]. 9-Borabicyclo[3.3.1]nonane tetrahydrofuran.

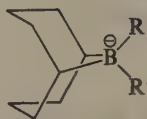
C₁₂H₂₃BO M 194.123

Present to a significant extent in THF solns. of 9-BBN dimer. Hydroborating agent. Unstable, found only in soln.

Köster, R. *et al*, *Angew. Chem.*, 1960, **72**, 626 (synth)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 7765 (synth, ir, pmr, ms)Brown, H.C., *Organic Synthesis via Boranes*, 1975, Wiley, N.Y., 191 (synth)Brown, H.C. *et al*, *Heterocycles*, 1977, **7**, 453 (rev)Contreras, R. *et al*, *Z. Naturforsch., B*, 1980, **35**, 1236 (nmr)Wang, K.K. *et al*, *J. Org. Chem.*, 1980, **45**, 1748, 5303 (props, cmr)Soderquist, J.A. *et al*, *J. Org. Chem.*, 1981, **46**, 4599 (synth)Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, **8**, 47.

C₈H₁₆B⁺

9-Boratabicyclo[3.3.1]nonane, 10Cl, 9Cl
9-BBN hydride
[25301-61-5]



R = R' = H

M 123.024 (ion)

Li salt: [76448-08-3].

C₈H₁₆BLi M 129.965

Air- and moisture-sensitive.

Na salt: [76448-07-2].

C₈H₁₆BNa M 146.014

Air- and moisture-sensitive.

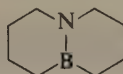
K salt: [76448-06-1].

C₈H₁₆BK M 162.123

Air- and moisture-sensitive.

Pinazzi, C.P. *et al*, *Eur. Polym. J.*, 1976, **12**, 83.Boudjouk, P. *et al*, *J. Org. Chem.*, 1978, **43**, 3979.Hubbard, J.L. *et al*, *J. Organomet. Chem.*, 1978, **156**, 81 (*deriv.*, *nmr*)Moreau, R. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1978, **287**, 39.Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 2712, 4541 (*synth.*, *ir*, *nmr*)C₈H₁₆BN

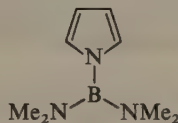
1-Aza-6-borabicyclo[4.4.0]decane
9-Aza-10-boradecahydronaphthalene
[18903-54-3]



M 137.031

Oil. Bp₂₇ 81-4°. n_D²⁴ 1.4837.Dewar, M.J.S. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 2137 (*synth*)Davis, F.A. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 2094 (*nmr*, *ms*)C₈H₁₆BN₃

Bis(dimethylamino)-1-pyrrolylborane
N,N,N',N'-Tetramethyl-1-(1H-pyrrol-1-yl)boranedi-
amine, 10Cl, 9Cl
[42051-53-6]



M 165.045

Liq., sensitive to moisture. Bp₁ 42-3°.Nöth, H. *et al*, *Chem. Ber.*, 1973, **106**, 1145 (*nmr*, *props*)Ebraheem, K.A.K., *Org. Magn. Reson.*, 1977, **10**, 258 (*props*)Jallali-Heravi, M. *et al*, *J. Mol. Struct.*, 1979, **55**, 113 (*props*)C₈H₁₇B

2-Butenyldiethylborane, 10Cl
Crotyldiethylborane
[67682-90-0]



M 124.032

Undergoes ready allyl rearr., which causes equilibration of *E*- and *Z*-isomers. Used in the synth. of 2-alkoxy-1,4-pentadienes. Liq., sensitive to air and moisture. Sol. nonhydroxylic solvs. Bp₅₀ 62-4°. n_D²⁰ 1.4278.

B-00546

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1976, 1116 (*synth*)Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1385 (*synth*, *nmr*)Bubnov, Yu.N. *et al*, *Synthesis*, 1980, 902 (*props*)C₈H₁₇B

Diethyl(2-methyl-2-propenyl)borane, 10Cl
(2-Methyl-2-propenyl)diethylborane.
Diethyl(methallyl)borane
[67741-07-5]



M 124.032

Prepd. from alkoxydiethylborane and a methallyl-metal deriv. Synthetic intermed. Air- and moisture sensitive liq. Sol. THF. Bp₄₅ 56°. n_D²⁰ 1.4235. Stable up to 110° under N₂ atm.

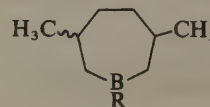
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594 (*synth*)Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth*)Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)Bubnov, Y.N. *et al*, *Synthesis*, 1980, 902 (*use*)

B-00550

B-00547

C₈H₁₇B

3,6-Dimethylborepane, 10Cl, 9Cl, 8Cl
[39546-63-9]



R = H

M 124.032

Dimeric. Has not been isol. pure, but has been fully identified spectroscopically and as its derivs. Hydroborating agent.

B-methoxy: [32503-24-5]. 1-Methoxy-3,6-dimethylborepane.

C₉H₁₉BO M 154.059Liq., sensitive to air and moisture. Bp₂₀ 76-9°.

2-Dimethylaminoethanol deriv.: [32503-13-2]. 2-[(3,6-Dimethyl-1-borepanyl)oxy]-N,N-dimethylethanamine.

C₁₂H₂₆BNO M 211.154Liq. Bp₁ 104-5°. n_D²⁰ 1.4825.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 3777 (*use*)Zweifel, G. *et al*, *Synthesis*, 1972, 557 (*use*)Negishi, E. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6757 (*synth*, *pmr*, *ir*, *deriv*)Zweifel, G. *et al*, *Synthesis*, 1973, 37 (*props*)

B-00551

B-00548

B-00549

C₈H₁₇B

Octyldichloroborane
Dichlorooctylboron. Dichlorooctylborane



M 124.032

Me₂S complex: [72205-94-8]. Dichlorooctyl[thiois[methane]]boron, 10Cl.

C₁₀H₂₃BCl₂S M 257.068

B-00552

Prepd. by hydroboration of 1-octene with HBCl₂-SMe₂. Air- and moisture-sensitive liq. Bp₂ 65-7°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 384 (*synth*)

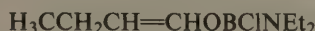
C₈H₁₇BClNO

B-00553

Diethylaminochloro(1-butenyloxy)borane

1-(1-Butenyloxy)-1-chloro-N,N-diethylboranamine, 10Cl

[71466-96-1]



M 189.491

Moisture-sensitive.

Sugasawa, T. *et al*, *Synth. Commun.*, 1979, **9**, 583 (*synth, use*)

C₈H₁₇BCl₂

B-00554

Dichlorooctylborane, 10Cl

Dichlorooctylborine. Octyldichloroborane

[63348-82-3]



M 194.938

Liq., sensitive to air and moisture. Sol. pentane and other inert solvs. Bp₁₉ 92-4°. ¹¹B nmr δ 64.0 ppm.

U.S.P., 2 930 809, (1960); *CA*, **54**, P19484h

U.S.P., 3 133 961, (1964); *CA*, **61**, P5690d

Gerrard, W. *et al*, *J. Chem. Soc.*, 1964, 740 (*synth*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1977, **42**, 2533 (*synth*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 384 (*synth, derivs*)

C₈H₁₇BO₂

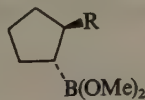
B-00555

(2-Methylcyclopentyl)dimethoxyborane

(2-Methylcyclopentyl)boronic acid dimethyl ester, 10Cl,

9Cl. Dimethyl 2-methylcyclopentylboronate. Dimethyl 2-methylcyclopentaneboronate. Dimethoxy(2-methylcyclopentyl)borane

[37981-95-6]



R = CH₃

M 156.031

(1*RS*,2*RS*)-form [56118-57-1]

(±)-trans-form

Synthetic intermed. Air- and moisture-sensitive liq. Sol.

THF. Bp₁₅ 60-1°. n_D²⁰ 1.4290.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 5893 (*synth*)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2791 (*synth*,

pmr, ir)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **135**, C10.

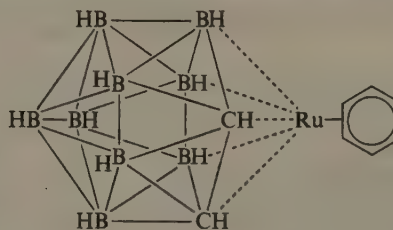
C₈H₁₇B₉Ru

B-00556

(η⁶-Benzene)[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium

3,1,2-(η⁶-Benzene)-RuC₂B₉H₁₁

[82704-20-9]



M 311.582

Canary-yellow needles (Me₂CO/hexane). Mp 308-9° dec.

Hanusa, T. *et al*, *Polyhedron*, 1982, **1**, 77 (*synth, pmr, ir, nmr, ms*)

C₈H₁₈BBr

B-00557

Bromobis(1-methylpropyl)borane, 10Cl

Bromodi-sec-butylborane

[13317-63-0]



M 204.944

Synthetic intermed. Air- and moisture-sensitive liq. Sol.

THF. d₂₅²⁵ 1.070. Bp₅ 50.0-50.1°. n_D²⁵ 1.444.

McCusker, P.A. *et al*, *J. Inorg. Nucl. Chem.*, 1966, **28**, 2261 (*synth*)

Brown, H.C. *et al*, *Synthesis*, 1977, 695 (*synth*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2417 (*synth*)

C₈H₁₈BBr

B-00558

Bromodibutylborane, 10Cl, 9Cl, 8Cl

Bromodibutylborine

[5674-70-4]



M 204.944

Synthetic intermed.; catalyst in polymerisation of vinyl compds. Colourless liq., hydrol. by water, oxid. by air.

Sol. THF. Bp₄ 44°.

Johnson, J.R. *et al*, *J. Am. Chem. Soc.*, 1938, **60**, 115 (*synth, props*)

Skinner, H.A. *et al*, *J. Chem. Soc.*, 1953, 3378 (*synth*)

McCusker, P.A. *et al*, *J. Inorg. Nucl. Chem.*, 1966, **28**, 2261

(*synth*)

Laurent, J.P. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1968, **267**, 1535 (*synth*)

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, **719**, 169

(*synth*)

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 531

(*synth*)

Brown, H.C. *et al*, *Synthesis*, 1977, 695 (*synth*)

C₈H₁₈BBr₂N

B-00559

Dibromo(dibutylamino)borane

1,1-Dibromo-N,N-dibutylboranamine, 10Cl, 9Cl

[54336-83-3]



M 298.855

Moisture-sensitive liq. d₄¹⁸ 1.373. Bp₁ 84°. n_D¹⁸ 1.4875.

Spitsyn, V.I. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974, 2626; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2535 (synth)
 Bryukhova, E.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 1614; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1529 (nqr)
 Sheikh, S.U. *et al*, *Bull. Chem. Soc. Jpn.*, 1976, 49, 2879 (synth)
 Balabanova, E.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2638; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2360 (nmr)

C₈H₁₈BBR₃S₂ B-00560

Tribromoborane dibutyl disulfide

Tribromo(dibutyl disulfide-S)boron, 10Cl. Tribromoborane compd. with dibutyl disulfide (1:1). Boron tribromide dibutyl disulfide
 [69246-02-2]



M 428.872

Ganyushin, L.A. *et al*, *Zh. Obshch. Khim.*, 1978, 48, 2478; 1979, 49, 2090.

C₈H₁₈BCl B-00561

Chlorobis(2-methylpropyl)borane, 10Cl, 9Cl

Chlorodiisobutylborane, 8Cl. Chlorodiisobutylborine
 [13317-64-1]



M 160.493

Catalyst for polymerisation of acrylonitrile and other vinyl compds.; synthetic intermed. Air- and moisture-sensitive liq. Bp₇₄₇ 160-1°. n_D²⁰ 1.4230.

Booth, R.B. *et al*, *J. Am. Chem. Soc.*, 1952, 74, 1415 (synth)

McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1957, 79, 5192 (synth)

Mikhailov, B.M., *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1962, 413.

McCusker, P.A. *et al*, *J. Inorg. Nucl. Chem.*, 1966, 28, 2261.

Pasto, D.J. *et al*, *J. Am. Chem. Soc.*, 1969, 89, 295 (synth, nmr)

Brown, H.C. *et al*, *J. Org. Chem.*, 1977, 42, 2533; 1979, 44, 2417 (synth)

C₈H₁₈BCl B-00562

Dibutylchloroborane, 10Cl, 9Cl, 8Cl

Dibutylchloroborine

[1730-69-4]



M 160.493

Catalyst for butadiene oligomerisation; also used in polyester manufacture. Clear colourless liq., easily hydrolysed, sensitive to air. Sol. non-hydroxylic solvs. Bp 173°, Bp₁₂ 58-60°. ΔH_{Hydrolysis} -18.54 kcal mol⁻¹. ΔH_f -31.4 kcal mol⁻¹.

▷ Spontaneously flammable in air

Booth, R.B. *et al*, *J. Am. Chem. Soc.*, 1952, 74, 1415 (synth, props)

Buls, V.W. *et al*, *J. Am. Chem. Soc.*, 1957, 79, 337 (synth)

Mostovoi, N.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1966, 90 (synth, props)

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1969, 719, 169 (synth)

Brown, H.C. *et al*, *J. Org. Chem.*, 1977, 42, 2534; 1979, 44, 2417 (synth)

Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 551.

C₈H₁₈BCl₂N B-00563

Dichloro(dibutylamino)borane, 8Cl

N,N-Dibutyl-1,1-dichloroboraneamine, 10Cl, 9Cl
 [18379-71-0]



M 209.953

Moisture-sensitive.

Gros, G. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1967, 265, 1065.

Gallais, F. *et al*, *J. Chim. Phys. Physicochim. Biol.*, 1971, 68, 247.

Sheikh, S.U., *Bull. Chem. Soc. Jpn.*, 1976, 49, 2879.

Sheikh, S.U. *et al*, *Pak. J. Sci. Ind. Res.*, 1980, 23, 21.

C₈H₁₈BF B-00564

Dibutylfluoroborane, 10Cl, 9Cl, 8Cl

Dibutylfluoroborine. Fluorodibutylborane
 [589-69-5]



M 144.039

Colourless mobile liq., sensitive to moisture. Sol. non-hydroxylic solvs. d₄²⁴ 0.783. Bp₂₀ 48°, 49-52°.

▷ Inflames in air

Buls, V.W. *et al*, *J. Am. Chem. Soc.*, 1957, 79, 337 (synth)

DeWitt, E.L. *et al*, *J. Org. Chem.*, 1961, 26, 4156 (synth)

Tuchagues, J.P. *et al*, *Bull. Soc. Chim. Fr.*, 1967, 4160 (synth)

Laurent, J.P., *C.R. Hebd. Seances Acad. Sci.*, 1968, 267, 789 (props)

Köster, R., *Justus Liebigs Ann. Chem.*, 1968, 719, 169 (synth)

Costes, J.P. *et al*, *J. Organomet. Chem.*, 1979, 175, 257 (props)

C₈H₁₈BF₃O B-00565

Trifluoroborane dibutyl ether

Trifluoro[1,1'-oxybis[butane]]boron, 10Cl. 1,1'-Oxybis[butane] compd. with trifluoroborane (1:1), 9Cl. Butyl ether compd. with boron fluoride (BF₃) (1:1), 8Cl
 [593-04-4]



M 198.035

Catalyst in polymerisation reactions. Moisture-sensitive liq. Fp -30°.

Palko, A.A. *et al*, *J. Chem. Phys.*, 1967, 46, 2297.

Topchii, V.A. *et al*, *Zh. Obshch. Khim.*, 1969, 39, 2689.

Fratiello, A. *et al*, *J. Org. Chem.*, 1972, 37, 2237 (nmr)

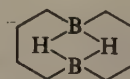
Voloshchuk, A.M. *et al*, *Kernenergie*, 1974, 17, 121.

Borovikov, Y.Y. *et al*, *Zh. Obshch. Khim.*, 1980, 50, 2531.

Chmiel-Pela, J., *CA*, 1981, 95, 189369 (rev)

C₈H₁₈B₂ B-00566

1,6-Diboracyclodecane



M 135.850

Originally thought to be the simple H-bridged dimer of Borolane, B-00227. Colourless liq. Insol. H₂O, misc. most org. solvs. Bp₁₆ 88-9°, Bp₅ 59-60°. n_D²⁰ 1.4886, 1.4895. Thermally stable; stable to air, water and AcOH at r.t.

Köster, R. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1963, **2**, 219 (synth)
 Breuer, E. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 4164 (struct)
Inorg. Synth., 1979, **19**, 239 (synth, struct, ir, nmr)

C₈H₁₉B **B-00567**

Dibutylborane, 10Cl, 9Cl, 8Cl
Dibutylborine
 [34266-14-3]



M 126.048

Dimeric in the uncomplexed state.

Dimer:

C₁₆H₃₈B₂ M 252.096

Sol. Et₂O, THF. Readily disproportionates; more stable as Et₂O or Py complexes.

Auten, R.W. *et al*, *J. Am. Chem. Soc.*, 1952, **74**, 3398 (synth)
 Brown, H.C. *et al*, *J. Organomet. Chem.*, 1971, **32**, C1 (synth)
 Gupta, S.K., *J. Organomet. Chem.*, 1978, **156**, 95 (synth)
 Yaniguchi, H., *Nippon Kagaku Kaishi*, 1979, 906; *CA*, **91**, 210504x (rev)

C₈H₁₉BN₂ **B-00568**

Bis(dimethylamino)(1-methyl-2-propenyl)borane
N,N,N',N'-Tetramethyl-1-(1-methyl-2-propenyl)boranediamine, 10Cl. 1-Buten-3-ylbis(dimethylamino)-borane
 [51783-26-7]



M 154.062

Synthetic intermed. Liq., sensitive to air and moisture.

Sol. THF. Bp₄₈ 89°, Bp₃₀ 70-6°. Stable at 200°; at 225° some isomerisation and dec., even under N₂.

Hancock, K.G. *et al*, *J. Organomet. Chem.*, 1974, **64**, C29 (synth)

Hoffmann, R.W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1980, **19**, 218 (props)

Hoffmann, R.W. *et al*, *J. Organomet. Chem.*, 1980, **195**, 137 (synth, pmr)

Hoffmann, R.W. *et al*, *J. Org. Chem.*, 1981, **46**, 1309 (props)

C₈H₁₉BN₂ **B-00569**

2-Butenylbis(dimethylamino)borane
1-(2-Butenyl)-N,N,N',N'-tetramethylboranediamine, 10Cl, 9Cl
 [51783-27-8]



M 154.062

The *Z* and *E* isomers react diastereospecifically with carbonyl compds.

(*E*)-form [69611-00-3]

Liq., sensitive to air and moisture. Bp₁₀₀ 98.6°.

(*Z*)-form [69610-99-7]

Liq., sensitive to air and moisture. Bp₁₀₀ 100.8-101.4°.

Hancock, K.G. *et al*, *J. Organomet. Chem.*, 1974, **64**, C29 (synth)

Hoffmann, R.W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1979, **18**, 306; 1980, **19**, 218 (synth, isom)

Hoffmann, R.W. *et al*, *J. Org. Chem.*, 1981, **46**, 1309 (synth, pmr, cmr, isom)

Hoffmann, R.W. *et al*, *Chem. Ber.*, 1981, **114**, 2802 (props)

C₈H₁₉BO **B-00570**

Butoxydiethylborane

Diethylborinic acid butyl ester, 10Cl, 9Cl. *Diethyl(butoxy)-borane*
 [55848-21-0]



M 142.048

Used in synth. of 2-Methylallyl(diethyl)borane and other diethylboryl compds. Air- and moisture-sensitive liq.

Sol. nonhydroxylic solvs. Bp₁₅ 48-9°.

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1975, 352 (pmr, synth)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1392 (use)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (props, use)

C₈H₁₉BO **B-00571**

Dibutyl(hydroxy)borane

Dibutylborinic acid, 10Cl, 9Cl
 [1189-31-7]



M 142.048

Liq. Bp_{0.5} 84°.

Letsinger, R.L. *et al*, *J. Am. Chem. Soc.*, 1954, **76**, 4174 (synth)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 2802; 1972, **94**, 2112; 1976, **96**, 1789, 1798 (synth)

Galiullina, R.F. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 1657.

C₈H₁₉BO **B-00572**

Ethoxydipropylborane

Dipropylborinic acid ethyl ester, 10Cl
 [53678-60-7]



M 142.048

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs. Bp₇₂₁ 148-51°, Bp₉ 37°. *n*_D²⁰ 1.4024.

Vetter, H.J., *Z. Anorg. Allg. Chem.*, 1964, **330**, 233 (synth)

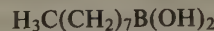
Vetter, H.J., *Z. Naturforsch., B*, 1964, **19**, 72 (synth)

Airiyan, L.Sh. *et al*, *Arm. Khim. Zh.*, 1979, **32**, 725; *CA*, **92**, 181248e (synth, props)

C₈H₁₉BO₂ **B-00573**

Dihydroxyoctylborane

Octylboronic acid, 10Cl. *1-Octaneboronic acid*, 8Cl
 [28741-08-4]



M 158.047

Bifunctional reversible inhibitor of many enzyme systems. Solid, somewhat sensitive to air. Mp 79°.

Torssell, K., *Acta Chem. Scand.*, 1957, **11**, 404 (synth)

Köster, R., *Justus Liebigs Ann. Chem.*, 1958, **618**, 31 (synth)

Gerrard, W. *et al*, *J. Chem. Soc.*, 1964, 740.

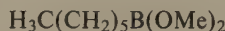
Antonov, V.K., *Mol. Biol.*, 1970, **4**, 558 (use)

Jarv, J., *Bioorg. Khim.*, 1978, **4**, 1364 (use)

Wiecko, J. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 979 (ms)

C₈H₁₉BO₂**B-00574****Hexyldimethoxyborane**

Hexylboronic acid dimethyl ester, 10Cl. 1-Hexaneboronic acid dimethyl ester. Dimethyl hexylboronate
[2344-23-2]



M 158.047

Synthetic intermed. Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs. d_{20}^{20} 0.841. Bp₁₀ 59-61°. n_D^{20} 1.4082.

Mikhailov, B.M., *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1962, 1756 (synth)

Mikhailov, B.M. et al, *Zh. Obshch. Khim.*, 1965, **35**, 925, 1073 (synth)

Brown, H.C. et al, *J. Am. Chem. Soc.*, 1977, **99**, 7097 (synth)

Brown, H.C. et al, *J. Org. Chem.*, 1980, **45**, 384 (props)

C₈H₂₀B^o**B-00575****Tetraethylborate(1-), 10Cl, 9Cl, 8Cl**

[44772-63-6]



M 127.056 (ion)

Li salt: [15003-13-1].

C₈H₂₀BLi M 133.997

Battery electrolyte. Air- and moisture-sensitive.

Na salt: [15523-24-7].

C₈H₂₀BNa M 150.046

White cryst. (toluene); sensitive to air, light, acid; highly hygroscopic. Sol. H₂O, Et₂O, THF diglyme, insol. pentane, sl. sol. C₆H₆. Mp 145°. Aqueous solns. alkaline.

Thompson, R.J. et al, *Inorg. Chem.*, 1965, **4**, 1464 (props)

Binger, P. et al, *Justus Liebigs Ann. Chem.*, 1968, **717**, 21 (use)

Nöth, H. et al, *J. Organomet. Chem.*, 1968, **12**, 23 (nmr)

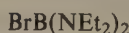
Inorg. Synth., 1974, **15**, 136 (synth, use)

Horowitz, H.H. et al, *Proc. Electrochem. Soc.*, 1981, **81**, 131 (use)

C₈H₂₀BBrN₂**B-00576****Bromobis(diethylamino)borane**

1-Bromo-N,N,N',N'-tetraethylboranediamine, 10Cl, 9Cl

[38762-31-1]



M 234.973

Probably liq., sensitive to moisture.

Beck, W. et al, *Chem. Ber.*, 1972, **105**, 2883 (nmr)

Davidson, G. et al, *CA*, 1977, **87**, 175182j (raman, ir)

Maringele, W. et al, *Z. Anorg. Allg. Chem.*, 1978, **445**, 107 (props)

Bessler, E. et al, *Z. Anorg. Allg. Chem.*, 1981, **480**, 117 (props)

Davidson, G. et al, *J. Chem. Soc., Dalton Trans.*, 1981, 306 (ir, raman)

C₈H₂₀BClN₂**B-00577****Chlorobis(diethylamino)borane, 8Cl**

1-Chloro-N,N,N',N'-tetraethylboranediamine, 10Cl, 9Cl.

Chlorobis(diethylamino)borine. Bisdiethylaminoboron chloride

[868-25-7]



M 190.522

Liq., sensitive to moisture. Bp₁₆ 83-7°. n_D^{20} 1.4549.

Gerrard, W. et al, *J. Chem. Soc.*, 1957, 381 (synth)

Bellamy, L.J. et al, *J. Chem. Soc.*, 1958, 2412 (ir)

Panidi, I.S., *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1965, **41**, 226 (synth, props)

Panidi, I.S., *CA*, 1967, **66**, 18485j (synth)

Davis, F.A. et al, *J. Org. Chem.*, 1971, **36**, 1300 (nmr)

Beck, W. et al, *Chem. Ber.*, 1972, **105**, 2883 (nmr)

C₈H₂₀BN**B-00578****Aminodibutylborane, 8Cl**

1,1-Dibutylboranamine, 10Cl, 9Cl. Aminodibutylborine

[1767-37-9]



M 141.063

Air- and moisture-sensitive liq. Bp₈ 56-8°. n_D^{20} 1.4278.

Mikhailov, B.M. et al, *Zh. Obshch. Khim.*, 1962, **32**, 1969 (synth)

Mikhailov, B.M. et al, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1970, **194**, 595 (nmr)

Beck, W. et al, *Chem. Ber.*, 1972, **105**, 2883 (nmr)

Dorokhov, V.A. et al, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, **1432**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1375.

Dorokhov, V.A. et al, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, **1921**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1785.

Dorokhov, V.A. et al, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1981, **258**, 351.

C₈H₂₀BN**B-00579****Diethylaminodiethylborane, 8Cl**

N,N,1,1-Tetraethylboranamine, 10Cl, 9Cl

[4023-39-6]



M 141.063

Catalyst for polymerisation of propene. Air- and moisture-sensitive liq. Bp 154° (161°). n_D^{20} 1.4245.

Niedenzu, K. et al, *J. Am. Chem. Soc.*, 1960, **82**, 4223 (synth)

Wyman, G.M. et al, *J. Chem. Soc.*, 1962, 4068 (ir)

Nöth, H. et al, *Chem. Ber.*, 1966, **99**, 1049 (nmr)

Beck, W. et al, *Chem. Ber.*, 1972, **105**, 2883 (nmr)

Binger, P. et al, *J. Organomet. Chem.*, 1974, **73**, 205 (use)

Gupta, S.K. et al, *J. Organomet. Chem.*, 1978, **156**, 95 (synth)

Nöth, H. et al, *Chem. Ber.*, 1981, **114**, 1150 (cmr)

C₈H₂₀BN**B-00580****Dimethylaminodipropylborane**

N,N-Dimethyl-1,1-dipropylboranamine, 10Cl, 9Cl

[13113-78-5]



M 141.063

Air- and moisture-sensitive liq. Bp 136-8°, Bp₁₂ 57-9°.

Nöth, H. et al, *Z. Naturforsch., B*, 1961, **16**, 618 (synth)

Nöth, H. et al, *Chem. Ber.*, 1964, **97**, 709 (synth)

Eubanks, I.D. et al, *J. Am. Chem. Soc.*, 1966, **88**, 2425 (uv)

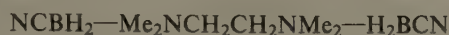
Costes, J.P. et al, *J. Organomet. Chem.*, 1979, **175**, 257 (pmr)

Emerick, D.P. et al, *Z. Anorg. Allg. Chem.*, 1980, **464**, 44 (nmr)

C₈H₂₀B₂N₄**B-00581****Tetramethylethylenediamine bis(cyanoborane)**

Bis(cyano-C)tetrahydro(μ-N,N,N',N'-tetramethyl-1,2-ethanediamine-N:N')diboron, 10Cl. Boranecarbonitrile compd. with N,N,N',N'-tetramethyl-1,2-ethanediamine (2:1), 9Cl

[30353-64-1]



M 193.893

White powder. Mp 169-71°.

▷ED1090000.

Kelly, H.C. *et al*, *J. Chem. Soc., Chem. Commun.*, 1970, 1619 (synth)Weidig, C. *et al*, *Inorg. Chem.*, 1974, **13**, 1763 (synth, ir, pmr)Spielsvogel, B.F. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **41**, 1223

(pharmacol)

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1980, **69**, 1025; 1981, **70**, 339

(pharmacol)

C₈H₂₀B₂O

B-00582

Oxybis[diethylborane], 8Cl

Diethylborinic acid anhydride, 10Cl, 9Cl. Bis(diethylboron)oxide. Diethylboric oxide. Tetraethyldiboroxane

[7318-84-5]



M 153.865

Air-sensitive liq. Sol. nonhydroxylic solvs. Bp 143°, Bp₁₁ 47°.Meerwein, H. *et al*, *J. Prakt. Chem.*, 1936, **147**, 251 (synth)Rothstein, E. *et al*, *J. Chem. Soc.*, 1952, 2987.Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (nmr)Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23 (pmr)Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1974, **54** (synth, ms, nmr)Shitov, O.P. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974,2782; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **23**, 2684

(props)

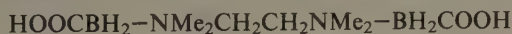
Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (nmr)C₈H₂₂B₂N₂O₄

B-00583

N,N,N',N'-Tetramethylethylenediamine bis(carboxyborane)

Boranecarboxylic acid compd. with N,N,N',N'-tetramethyl-1,2-ethanediamine(2:1), 10Cl

[72695-30-8]



M 231.893

Prepd. from TMEDA(BH₂CN)₂. Shows anticholesteraeic and antihypolipidaemic activity.Air-sensitive white cryst. (H₂O). Sol. CHCl₃. Mp 270° dec.Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, **3**, 695 (rev)Spielsvogel, B.F. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **41**, 1223

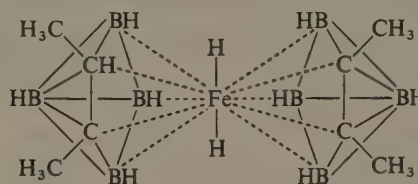
(synth)

Hall, I.H. *et al*, *J. Pharm. Sci.*, 1980, **69**, 1025; 1981, **70**, 339 (pharmacol)C₈H₂₂B₈Fe

B-00584

Bis[(2,3,4,6-η)-pentahydro-4,5-dimethyl-4,5-dicarbahehexaborato(1-)-H⁺]ironBis(2,3-dimethyl-2,3-dicarbahehexaboranyl)iron dihydride. [2,3-[C₂B₄H₄(CH₃)₂]]₂FeH₂

[58846-86-9]



M 260.589

H-Fe-H atoms not located. Extremely air-sensitive deep-red cryst. Bp 0° in vacuo subl.

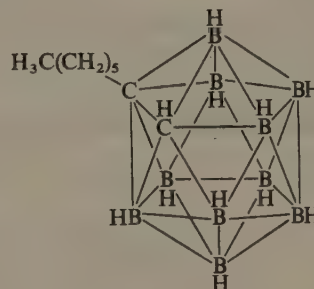
Maxwell, W.M. *et al*, *Inorg. Chem.*, 1976, **15**, 1343 (synth, nmr, pmr, ms, ir)Pipal, J.R. *et al*, *Inorg. Chem.*, 1979, **18**, 263 (synth, struct)C₈H₂₄B₁₀

B-00585

1-Hexyl-1,2-dicarbadodecaborane(12), 10Cl

1-Hexyl-o-carborane

[20740-05-0]



M 228.378

closo-. Rocket propellant burn rate modifier. Liq. Bp₇₆₀ 326.7°, Bp_{0.5} 102°. n_D²⁵ 1.5211.

▷HS9350000.

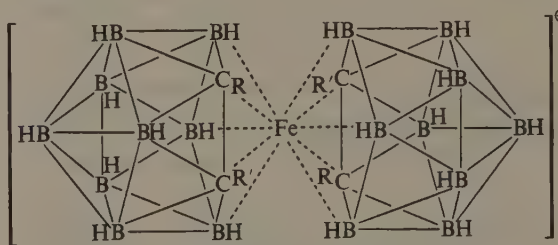
Fein, M.M. *et al*, *Inorg. Chem.*, 1963, **2**, 1115 (synth)Heying, T.L. *et al*, *Inorg. Chem.*, 1963, **2**, 1089 (synth)C₈H₃₀B₁₈Fe[⊖]

B-00586

Bis[(7,8,9,10,11-η)-1,2,3,4,5,6,9,10,11-nonahydro-7,8-dimethyl-7,8-dicarbaundecaborato(2-)]ferrate(1-), 10Cl

Bis[undecahydro-7,8-dimethyl-π-7,8-dicarbaundecaborato(2-)]ferrate(1-), 8Cl

[11070-28-3]

R = R' = CH₃

M 376.752 (ion)

Paramagnetic. Reduced to a deep-lavender-blue ferrate(2-) species.

Tetramethylammonium salt: [12556-51-3].

C₁₂H₄₂B₁₈FeN M 450.898

Red cryst. (Me₂CO aq.). Mp 247-9°.

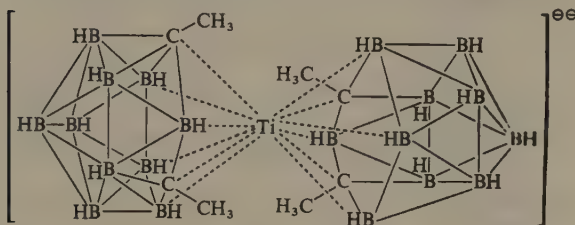
Gray, H.B. *et al*, *Inorg. Chem.*, 1971, **10**, 1559.

Ammeter, J.H. *et al*, *J. Magn. Reson.*, 1978, **30**, 299 (*esr*)

C₈H₃₂B₂₀Ti^{⊖⊖}

B-00587

Bis[η⁶-decahydro-C, C'-dimethyldicarbododecaborato(2-)]-titanate(2-), 9Cl
4,4'-Bis(decahydro-1,6-dimethyl-1,6-dicarba-4-titanocloso-tridecaborate)(2-)



M 392.421 (ion)

Bis(tetramethylammonium) salt: [55266-92-7].

C₁₆H₅₆B₂₀N₂Ti M 540.712

Red cryst. + 2Me₂CO (Me₂CO/EtOH), air-stable in solid state.

Salentine, C.G. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 426 (*synth*, *pmr*, *nmr*, *props*)

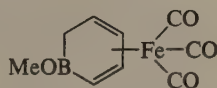
Yo, F.Y. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 428 (*cryst struct*)

C₉H₉BFeO₄

B-00588

Tricarbonyl[(3,4,5,6-η)-1,2-dihydro-1-methoxyborin]iron, 10Cl

[72401-05-9]



M 247.825

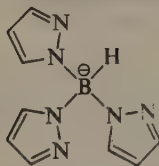
Precursor for bis(borabenzene) iron. Air-sensitive yellow oil.

Ashe, A.J. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 7066 (*synth*, *nmr*, *pmr*, *ms*)

C₉H₁₀BN₆[⊖]

B-00589

Hydrotris(1H-pyrazolato-N¹)borate(1-), 10Cl, 9Cl
[46755-84-4]



M 213.028 (ion)

Used in metal complex formn.

Li salt: [18583-61-4]. Needles (toluene). Mp 264-5°. Bp₂ 240° subl.

Na salt: [18583-62-5].

C₉H₁₀BN₆Na M 236.018

Cryst. (1,2-dimethoxyethane or by subl.). Moisture-sensitive. Mp 222-3°. Bp₂ 210-5° subl.

K salt: [18583-60-3].

C₉H₁₀BKN₆ M 252.127

Fine needles (anisole). Mp 188-9°.

Trofimenko, S., *J. Am. Chem. Soc.*, 1967, **89**, 3170 (*synth*)
Inorg. Synth., 1970, **12**, 102 (*synth*)

Trofimenko, S., *Chem. Rev.*, 1972, **72**, 497 (*rev*)

Bruno, G. *et al*, *Inorg. Chim. Acta*, 1981, **48**, 61 (*struct*, *pe*)

Fragala, I. *et al*, *CA*, 1981, **94**, 217059b (*uv*, *pe*)

C₉H₁₁BCl₂

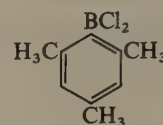
B-00590

Dichloro(2,4,6-trimethylphenyl)borane, 10Cl

Dichloromesitylborane. Dichloromesitylborane.

Mesityldichloroborane

[69464-76-2]



M 200.902

Fuming liq., rapidly hydrol. by H₂O. Sol. toluene.

Muetterties, E.L., *J. Am. Chem. Soc.*, 1959, **81**, 2597 (*synth*)

Hakan, G.K., *Acta Chem. Scand., Ser. B*, 1978, **32**, 765 (*use*)

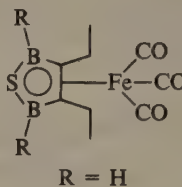
Paetzold, P. *et al*, *Chem. Ber.*, 1979, **112**, 3811 (*use*)

C₉H₁₂B₂FeO₃S

B-00591

Tricarbonyl[(1,2,3,4,5-η)-3,4-diethyl-2,5-dihydro-1,2,5-thiadiborole]iron, 10Cl

[63339-02-6]



R = H

M 277.719

Yellow liq. Bp₁ 49°.

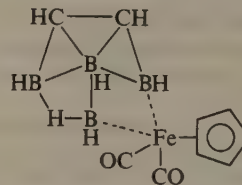
Siebert, W. *et al*, *J. Organomet. Chem.*, 1977, **131**, 1 (*synth*, *pmr*, *nmr*, *ir*, *ms*)

C₉H₁₂B₄FeO₂

B-00592

Dicarbonyl(η⁵-2,4-cyclopentadien-1-yl)[(2,3-η)-heptahydro-4,5-dicarbahexaborato(1-)]iron

[38999-56-3]



M 251.280

Intermed. for synthesis of (η⁵-2,4-Cyclopentadien-1-yl)-[(2,3,4,5,6-η)-heptahydro-2,5-dicarbahexaborato(1-)-H⁺]iron, B-00485. Bright-yellow.

Sneddon, L.G. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 7161; 1973, **95**, 6623 (*synth*, *ir*, *ms*, *pmr*, *nmr*)

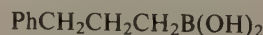
C₉H₁₃BO₂

B-00593

Dihydroxy(3-phenylpropyl)borane

(3-Phenylpropyl)boronic acid, 10Cl, 9Cl

[36329-85-8]



M 164.011

Bifunctional reversible inhibitor of many enzyme systems.

▷ Toxic

- Rotonova, T.V., *Bioorg. Khim.*, 1976, **2**, 837 (use, pharmacol)
 Carter, D.B., *Biochim. Biophys. Acta*, 1977, **484**, 103 (use, pharmacol)
 Rotonova, T.V., *Bioorg. Khim.*, 1978, **4**, 694 (use, pharmacol)

C₉H₁₄B[⊖]

B-00594

Trimethylphenylborate(1-), 10Cl

Phenyltrimethylborate



M 133.020 (ion)

Li salt: [78885-81-1].

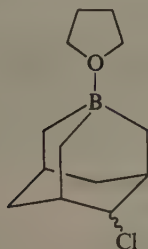
C₉H₁₄BLi M 139.961

Used in battery electrolytes.

Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 131 (props, use)Klemann, L.P. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 179 (props)C₉H₁₄BCl

B-00595

4-Chloro-1-boraadamantane

4-Chloro-1-boratricyclo[3.3.1.1^{3,7}]decane, 10Cl, 9Cl

THF complex

M 168.473

Known only in the form of its complexes.

THF complex: [61392-02-7]. [2-Chloro-1,3,5-cyclohexanetriyltris(methylene)](tetrahydrofuran)boron, 10Cl.

C₁₃H₂₂BClO M 240.579

White cryst. Mp 47-9°.

Pyridine complex: [55967-70-9]. [2-Chloro-1,3,5-cyclohexanetriyltris(methylene)](pyridine)boron, 10Cl.

C₁₄H₁₉BClN M 247.574Mikhailov, B.M., *Pure Appl. Chem.*, 1974, **39**, 505 (rev)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2056 (synth, pmr, nmr)Mikhailov, B.M. *et al*, *CA*, 1978, **88**, 190937y (synth)C₉H₁₄BF₃O₃S

B-00596

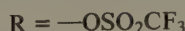
9-[(Trifluoromethyl)sulfonyl]oxy]-9-borabicyclo[3.3.1]nonane, 10Cl

9-Borabicyclo[3.3.1]nonane trifluoromethanesulfonate.

9-BBN triflate

[62731-43-5]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with



M 270.073

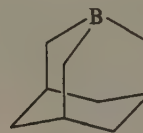
Reagent for generation of highly stereoselective boron enolates. Liq., moisture-sensitive. Bp_{0.03} 38°.Inoue, T. *et al*, *Chem. Lett.*, 1977, 153, 1215.Hirama, M. *et al*, *Tetrahedron Lett.*, 1979, 3937.Yamamoto, Y. *et al*, *Yuki. Gosei. Kagaku Kyokaishi*, 1979, **37**, 1008; *CA*, **92**, R139884j (synth, use)Inoue, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 174 (synth, ir)C₉H₁₅B

B-00597

1-Boratricyclo[3.3.1.1^{3,7}]decane, 10Cl, 9Cl

1,3,5-Cyclohexanetriyltris[methylene]boron, 10Cl. 1-Boraadamantane

[38673-97-1]



M 134.028

Unique tricoordinate boron compd. in which the boron atom exists in pyramidal and not trigonal state. Forms complexes with amines and related ligands readily. Colourless cryst. by subl. Thermally unstable, fumes in air. Mp 80°. High reactivity by comparison with simple trialkylboranes.

NMe₃ complex: [69874-56-2]. 1-Boraadamantane trimethylamine.C₁₂H₂₄BN M 193.138

Cryst. Shows antiviral props. against influenza virus A. Can be vacuum-distilled without dissociation.

Octadecylamine complex: [69492-12-2]. 1-Boraadamantane octadecylamine. 1-Boraadamantane stearylamine.

C₂₇H₅₄BN M 403.540

Oil.

Adamantylamine complex: [69492-11-1]. 1-Boraadamantane 1-adamantylamine.

C₁₉H₃₂BN M 285.279

Shows antiviral activity; used in treatment of influenza A infections in chickens. Cryst. (EtOH). Mp 190-2°.

(1-Adamantylethyl)amine complex: [69874-58-4]. 1-Boratricyclo[3.3.1.1^{3,7}]decane compd. with α-methyltricyclo[3.3.1.1^{3,7}]decane-1-methanamine(1:1), 10Cl. 1-Boraadamantane 1-adamantylethylamine.C₂₁H₃₆BN M 313.332

Heat-stabiliser for diene rubbers. Shows virucidal activity.

1,3,5,7-Tetraazatricyclo[3.3.1.1^{3,7}]decane complex: [61632-80-2]. 1-Boraadamantane 1,3,5,7-tetrazaadamantane. 1-Boraadamantane hexamethylenetetramine.C₁₅H₂₇BN₄ M 274.215

Shows virucidal activity. Colourless cryst. (hexane). Mp 275-8°.

Py complex: [37863-04-0].

C₁₄H₂₀BN M 213.129

Shows virucidal activity. Monoclinic cryst. (EtOH). Mp 160-2°.

2-Methylpyridine complex: [69464-63-7]. 1-Boraadamantane 2-methylpyridine. 1-Boraadamantane α-picoline.

C₁₅H₂₂BN M 227.156

Cryst. (EtOH). Mp 135-8°.

3-Methylpyridine complex: [69492-10-0]. 1-Boraadamantane 3-methylpyridine. 1-Boraadamantane β-picoline. Cryst. (EtOH). Mp 127-9°.

C₁₃H₂₃BO M 206.134

Thermally unstable colourless cryst. (hexane). Mp 84-8° (79-83°).

Et₂O complex: [55969-64-1].

C₁₃H₂₅BO M 208.150

Useful for synth. of other 1-boraadamantane complexes with stronger ligands. Shows antiviral activity. Colourless, viscous liq., partially dissociated at 25°.

EtNH₂ complex: [61632-81-3]. [1,3,5-Cyclohexanetriyltris[methylene]](ethanamine)boron, 10Cl.

C₁₁H₂₂BN M 179.112

Colourless cryst. (pentane or MeOH aq.). Mp 148-52°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1972, 1672; 1973, 2165 (*synth, props*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2302; 1979, 2544; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **25**, 2148; **28**, 2361 (*synth, pmr, nmr*)

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1978, **243**, 929 (*synth*)

Mikhailov, B.M. *et al*, *Khim.-Farm. Zh.*, 1979, **13**, 35; *CA*, **90**, 168661y (*synth, use*)

Buyanovskaya, A.G. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2106; *CA*, **94**, 113985j.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1106, 1621; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **29**, 813, 1164 (*props, cmr*)

Mikhailov, B.M., *Pure Appl. Chem.*, 1980, **52**, 691 (*rev, synth, nmr, props*)

U.S.S.R. Pat., 726 128, (1980); *CA*, **93**, 96561c (*use*)

Erokhina, L.M. *et al*, *CA*, 1981, **95**, 125883h (*use*)

Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **30**, 312 (*props*)

Vorontsova, L.G. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 595; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **30**, 438 (*synth, struct*)

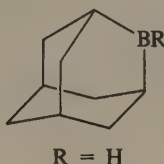
C₉H₁₅B

B-00598

2-Boratricyclo[3.3.1.1^{3,7}]decane, 10Cl

2-Boraadamantane

[56701-60-1]



M 134.028

Dimeric (BH-bridged). Forms complexes with amines.

Dimer:

C₁₈H₃₀B₂ M 268.055

Solid. Mp 193-8°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 894; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 818 (*synth, ir, pmr, nmr*)

Mikhailov, B.M., *Pure Appl. Chem.*, 1980, **52**, 691 (*synth*)

C₉H₁₅B

B-00599

Tri-2-propenylborane, 10Cl, 9Cl

Triallylborane, 8Cl. Triallylborine. Triallylboron

[688-61-9]



M 134.028

Prepd. from allylmagnesium bromide and BF₃·Et₂O under N₂. Synthetic intermed. used for transfer of an allyl group. Air- and moisture-sensitive liq. Sol. Et₂O, other non-hydroxylic solvs. d₂₀ 0.718. Bp₁₅ 62-5°.

Undergoes allylic rearrangement at 25°; at 135° the pmr shows only two signals, at δ 5.80 (1H, quintet) and δ 3.5 (4H, doublet).

►Ignites in air

Py complex: [14535-62-7]. Pyridine triallylborane.

C₁₄H₂₀BN M 213.129

Can be distilled. Bp₄ 116-8°.

Bogdanov, V.S. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1971, 1363 (*nmr*)

Bogdanov, V.S. *et al*, *Zh. Obshch. Khim.*, 1971, **41**, 1533 (*derivs*)

Mikhailov, B.M., *Organomet. Chem. Rev., Sect. A*, 1972, **8**, 1 (*rev*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974, 1137; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1079 (*rev*)

Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1974, **44**, 1878 (*derivs*)

Brueser, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **421**, 89 (*ir, raman*)

Schroeder, S. *et al*, *Z. Anorg. Allg. Chem.*, 1977, **428**, 225 (*synth*)

C₉H₁₅BN^e

B-00600

9-Cyano-9-hydro-9-boratabicyclo[3.3.1]nonane, 10Cl

9-Cyano-9-hydrido-9-borabicyclo[3.3.1]nonane. B-Cyano-9-BBN hydride

As 9-Boratabicyclo[3.3.1]nonane, B-00546 with

R = CN, R' = H

M 148.034 (ion)

Na salt: [60645-80-9].

C₉H₁₅BNNa M 171.024

Reducing agent. Tacky, air- and moisture-sensitive solid. Difficult to purify, cannot be recryst.

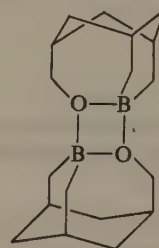
Hutchins, R.O. *et al*, *J. Org. Chem.*, 1977, **42**, 82 (*synth, ir*)

C₉H₁₅BO

B-00601

4-Oxa-3-boratricyclo[4.3.1.1^{3,8}]undecane

4-Oxa-3-borahomoadamantane



Dimer

M 150.027

Dimeric.

Dimer: [72930-44-0]. Bis[μ-[3,5-dimethylcyclohexanemethanolato(3-)]]diboron, 10Cl.

C₁₈H₃₀B₂O₂ M 300.054

White cryst. stable in air. Mp >360°. Converts to polymeric mass on heating.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2729; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2537 (*synth*)

Gurskii, M.E. *et al*, *J. Org. Chem.*, 1980, **199**, 171 (*nmr*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1106; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 813 (*synth, nmr, pmr*)

Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (*nmr*)

C₉H₁₅BO₃

B-00602

Tri(2-propenyloxy)borane

Boric acid (H₃BO₃) tri-2-propenyl ester, 10Cl, 9Cl. Boric acid (H₃BO₃) triallyl ester, 8Cl. Triallyl borate. Allyl borate. Triallyl orthoborate. Tris(allyloxy)borane. Triallyloxyborane

[1693-71-6]



M 182.026

Crosslinking agent for unsatd. polyesters in presence of H₂O. Moisture-sensitive liq. Sol. non-hydroxylic solvs. d_4^{20} 0.926, d_{10}^{10} 1.04. Bp₆₃₀ 163-5°, Bp₁₅ 76°, Bp₇ 42°. n_D^{21} 1.4276.

▷ED4810000.

Haider, S.Z. *et al*, *J. Appl. Chem.*, 1954, **4**, 93 (*props*)
 Gerrard, W. *et al*, *J. Chem. Soc.*, 1956, 3285 (*synth*)
 Brown, H.C. *et al*, *J. Chem. Soc.*, 1956, **78**, 3613 (*props*)
 Bogdanov, V.S. *et al*, *CA*, 1968, **68**, 100409n (*nmr*)
 Pola, M. *et al*, *Collect. Czech. Chem. Commun.*, 1979, **44**, 3688 (*ir, props*)
U.S.P., 4 283 533, (1981); *CA*, **95**, 171468z (*use*)

C₉H₁₆BBR

B-00603

3-Bromo-7-methyl-3-borabicyclo[3.3.1]nonane, 10Cl

3-Bromo-7-methyl-3-BBN

[74789-85-8]

As 3-Borabicyclo[3.3.1]nonane, B-00544 with



M 214.939

Air- and moisture-sensitive liq. Sol. CH₂Cl₂. Bp_{8.5} 91-2°. n_D^{20} 1.5175.

Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (*cmr*)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1106; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 813 (*synth*)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (*cmr*)

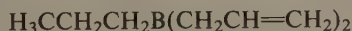
C₉H₁₇B

B-00604

Di-2-propenylpropylborane, 10Cl, 9Cl

Propyldi-2-propenylborane. Diallylpropylborane.
 Propyldiallylborane

[56347-95-6]



M 136.043

Prepd. from allylaluminum compds. and propyldialkoxyboranes. Synthetic intermed. Air- and moisture-sensitive liq. Sol. THF. Bp₈ 37-8°. n_D^{20} 1.4385.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1975, 979; 1978, 1586 (*synth*)
 Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth*)
 Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R., *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)

C₉H₁₇B

B-00605

9-Methyl-9-borabicyclo[3.3.1]nonane, 10Cl

B-Methyl-9-BBN

[23418-81-7]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with



M 136.043

Oil, sensitive to air. Bp_{1.0} 38-40°.

Yamamoto, Y. *et al*, *Chem. Lett.*, 1975, 1199 (*nmr*)
 Brown, H.C. *et al*, *Tetrahedron Lett.*, 1977, 3007.
 Wrackmeyer, B., *Z. Naturforsch., B*, 1980, **35**, 439 (*nmr*)
 Contreras, R. *et al*, *Z. Naturforsch., B*, 1980, **35**, 1236 (*nmr*)

Whiteley, C.G., *J. Chem. Soc., Chem. Commun.*, 1981, 5 (*synth*)

Whiteley, C.G. *et al*, *S. Afr. J. Chem.*, 1982, **35**, 9 (*synth*)

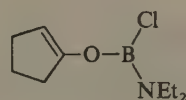
C₉H₁₇BCINO

B-00606

(Diethylamino)chloro(cyclopentenyl)borane

1-Chloro-1-(1-cyclopenten-1-yloxy)-N,N-diethylboramine, 10Cl

[71466-95-0]



M 201.502

Moisture-sensitive.

Sugasawa, T. *et al*, *Synth. Commun.*, 1979, **9**, 583.C₉H₁₇BO

B-00607

3-Methoxy-3-borabicyclo[3.3.1]nonane, 10Cl

MBBN

[17428-04-5]

As 3-Borabicyclo[3.3.1]nonane, B-00544 with



M 152.043

Important parent compd. with many known derivs. having substituents at the 7α-position. Air- and moisture-sensitive. Sol. CH₂Cl₂.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1967, 2290 (*synth*)
 Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (*cmr*)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (*cmr*)
 Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312.

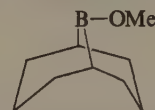
C₉H₁₇BO

B-00608

9-Methoxy-9-borabicyclo[3.3.1]nonane, 10Cl, 9Cl

B-Methoxy-9-BBN

[38050-71-4]



M 152.043

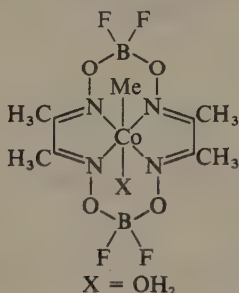
Liq., moisture- and air-sensitive. Bp₂ 48-50°, Bp_{0.08} 30-3°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 3561 (*synth, pmr*)
 Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1 (*synth, nmr*)
 Biffar, W. *et al*, *Chem. Ber.*, 1980, **113**, 333 (*nmr*)
 Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 846 (*nmr*)

C₉H₁₇B₂CoF₄N₄O₅

B-00609

Aqua[bis[μ-[(2,3-butanedione dioximato)(2-)-O:O']]] [tetrafluorodiborato(2-)-N,N',N'',N''']methylcobalt, 10Cl
[Tetrafluorobis[dimethylglyoximato(2-)]diborato]-aquomethylcobalt
[53729-64-9]



M 417.804

Vitamin B₁₂ analogue. Yellow cryst. (MeOH aq.). Sol. H₂O. Co–Me bond cleaved by light, OH⁻ and Hg²⁺. H₂O ligand easily replaced by Lewis bases, e.g. Py.

Schrauzer, G.N. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 3738 (synth)

Adin, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 653.

Cartano, A.V. *et al*, *Bioinorg. Chem.*, 1977, **7**, 351 (synth)

Brown, K.L., *J. Am. Chem. Soc.*, 1979, **101**, 6600 (pmr, props)

C₉H₁₈B[⊖]

B-00610

9-Methyl-9-boratabicyclo[3.3.1]nonane, 10Cl

B-Methyl-9-BBN hydride

As 9-Boratabicyclo[3.3.1]nonane, B-00546 with

R = Me, R' = H

M 137.051 (ion)

Li salt: [60824-29-5].

C₉H₁₈BLi M 143.992

Air- and moisture-sensitive.

Krishnamurthy, S. *et al*, *J. Org. Chem.*, 1976, **41**, 3064.

U.S.P., 4 082 810, (1978); *CA*, **89**, 109936y (synth)

Hubbard, J.L. *et al*, *J. Organomet. Chem.*, 1978, **156**, 81 (nmr)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (synth, nmr)

C₉H₁₈BNO₃

B-00611

[1,1',1''-Nitrilotris[2-propanolato](3-)-N,O,O',O'']boron, 10Cl, 9Cl

[1,1',1''-Nitrilotri-2-propanolato(3-)]boron, 8Cl. 1,1',1''-Nitrilotri-2-propanol cyclic borate. Triisopropanolamine borate

[27664-53-5]

As [[2,2',2''-Nitrilotris[ethanolato]](3-)-N,O,O',O'']-boron, B-00397 with

R = CH₃

M 199.056

Dipole moment 6.69D.

Onak, T.P. *et al*, *J. Phys. Chem.*, 1963, **67**, 1741 (nmr)

Pugh, J.M. *et al*, *Aust. J. Chem.*, 1963, **16**, 204.

Ger. Pat., 1 908 844, (1969); *CA*, **72**, 4052c (use)

Lukevics, E. *et al*, *Latv. PSR Zinat. Akad. Vestis. Kim. Ser.*, 1975, 483.

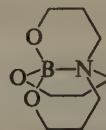
Eur. Pat., 6 634, (1980); *CA*, **93**, 113942x (use)

Shatz, V.D. *et al*, *J. Chromatogr.*, 1980, **200**, 105 (chromatog)

C₉H₁₈BNO₃

B-00612

[3,3',3''-Nitrilotris[1-propanolato](3-)-N,O,O',O'']boron, 10Cl, 9Cl
[3,3',3''-Nitrilotri-1-propanolato(3-)]boron, 8Cl. 3,3',3''-Nitrilotri-1-propanol cyclic borate. Tripropanolamine borate
[27664-60-4]



M 199.056

Onak, T.P. *et al*, *J. Phys. Chem.*, 1963, **67**, 1741 (nmr)

Ger. Pat., 1 908 844, (1969); *CA*, **72**, 4052c (use)

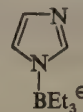
Lukevics, E. *et al*, *Latv. PSR Zinat. Akad. Vestis. Kim. Ser.*, 1975, 483.

Shatz, V.D. *et al*, *J. Chromatogr.*, 1980, **200**, 105 (chromatog)

C₉H₁₈BN₂[⊖]

B-00613

Triethyl(1H-imidazolato-N¹)borate(1-), 10Cl



M 165.065 (ion)

Li salt: [69206-21-9].

C₉H₁₈BLiN₂ M 172.006

Shows electrical resistivity; used in battery electrolytes.

U.S.P., 4 117 213, (1978); *CA*, **90**, 124645s (props, use)

U.S.P., 4 104 450, (1978); *CA*, **90**, 124646t (use)

Ger. Pat., 2 833 943, (1979); *CA*, **91**, 57173s (synth, props)

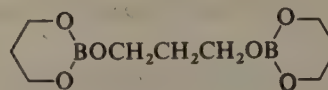
C₉H₁₈B₂O₆

B-00614

Trimethylene borate

1,3-Propanediol cyclic ester with boric acid (H₃BO₃) trimethylene ester, 8Cl. 2,2'-[(1,3-Propanediyl)bis(oxy)-]bis(1,3,2-dioxaborinane)

[20905-35-5]



M 243.858

Liq., sensitive to moisture. Bp_{0.05} 125°.

Finch, A. *et al*, *J. Org. Chem.*, 1961, **26**, 3250 (synth)

C₉H₁₉B

B-00615

Diethyl(3-methyl-2-butenyl)borane, 10Cl, 9Cl

3-Methyl-2-butenyldiethylborane.

Diethylisopentenylborane

[36934-17-5]

(H₃C)₂C=CHCH₂BEt₂

M 138.059

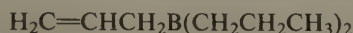
Although the compd. should undergo allyl rearrangement readily, this isomer is much more stable than its alternative, so predominates. Air-sensitive liq. Sol.

THF. Bp₇ 40°. n_D²⁰ 1.4367. Stable below 100°; does not easily symmetrise.

- Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1972, **204**, 612 (*synth*)
 Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1974, **44**, 1878 (*nmr*)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586 (*synth*)
 Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth, pmr*)
 Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)
 Bubnov, Y.N. *et al*, *Synthesis*, 1980, 902 (*use*)

C₉H₁₉B**B-00616****2-Propenyldipropylborane, 10Cl, 9Cl**

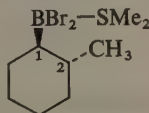
Dipropyl-2-propenyborane. Allyldipropylborane
 [51851-75-3]



- M 138.059
 Synthetic intermed., often generated *in situ*. Air- and moisture-sensitive liq. Sol. THF. Bp₁₂ 48-50°. *n*_D²⁰ 1.4267. ¹¹Bnmr δ 83.5 ppm.
 Kacheishvili, G.E. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 2402 (*synth*)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1975, 979; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 897 (*synth*)
 Bubnov, Y.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2842; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2653 (*props*)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1392 (*synth*)
 Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth*)
 Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, **3**, 695 (*rev*)

C₉H₁₉BBr₂S**B-00617****Dibromo(2-methylcyclohexyl)borane dimethyl sulfide**

Dibromo(2-methylcyclohexyl)[thiobis[methane]]boron, 10Cl. 2-Methylcyclohexyldibromoborane dimethyl sulfide



- M 329.927
 (*1RS, 2SR*)-*form* [64770-12-3]
 (±)-*trans-form*
 Synthetic intermediate. Air- and moisture-sensitive liq. Bp_{0.5} 68-9°.
 Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 7097 (*synth*)

C₉H₁₉BO₂**B-00618****(2-Ethylcyclopentyl)dimethoxyborane**

(2-Ethylcyclopentyl)boronic acid dimethyl ester, 10Cl, 9Cl. Dimethyl 2-ethylcyclopentylboronate

As (2-Methylcyclopentyl)dimethoxyborane, B-00555 with



M 170.058

trans-form [60134-95-4]

Synthetic intermed., precursor for prostaglandin model systems. Colourless liq., sensitive to air and moisture. Bp₁ 40°.

- Evans, D.A. *et al*, *J. Org. Chem.*, 1976, **41**, 3947 (*synth, ir, nmr*)
 Evans, D.A. *et al*, *Tetrahedron Lett.*, 1976, 1427 (*props*)

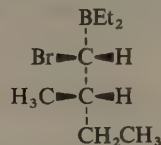
C₉H₂₀B⁺**B-00619****1-Hexenyltrimethylborate(1-), 10Cl**

M 139.067 (ion)

Cu(I) salt: [75213-13-7].C₉H₂₀BCu M 202.613

Synthetic intermed.

- Miyaura, N. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1471 (*synth, props*)

C₉H₂₀BBr**B-00620****(1-Bromo-2-methylbutyl)diethylborane, 10Cl**

M 218.971

(1RS, 2SR)-form [69798-76-1]

Air- and moisture-sensitive. Sol. THF.

- Midland, M.M. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 248.

C₉H₂₀BIO₂**B-00621****Dibutoxy(iodomethyl)borane**

(Iodomethyl)boronic acid dibutyl ester, 10Cl. Iodomethaneboronic acid dibutyl ester, 8Cl. Dibutyl iodomethylboronate

[13251-29-1]



M 297.970

Synthetic intermed. Air- and moisture-sensitive liq. Bp_{0.2} 78-80°.

- Matteson, D.S. *et al*, *J. Organomet. Chem.*, 1966, **6**, 100 (*synth, nmr*)
 Matteson, D.S. *et al*, *J. Org. Chem.*, 1968, **33**, 3055 (*synth, nmr*)
 Lindquist, R.N. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 6435 (*props*)
 Matteson, D.S. *et al*, *J. Organomet. Chem.*, 1979, **170**, 259 (*synth, props*)

C₉H₂₁B**B-00622****Triisopropylborane, 8Cl***Tris(1-methylethyl)borane, 10Cl, 9Cl*

[1776-66-5]



M 140.075

Synthetic intermed. and catalyst. Air-sensitive liq. distillable *in vacuo* below 100°. Sol. Et₂O, THF.

- Love, P., *J. Phys. Chem.*, 1963, **39**, 3044 (*nqr*)
 McCusker, P.A. *et al*, *J. Org. Chem.*, 1963, **28**, 2889 (*synth*)
Ital. Pat., 696 030, (1965); *CA*, **66**, 19019x (*derivs*)
 Weigert, F.J. *et al*, *Inorg. Chem.*, 1973, **12**, 313 (*nmr*)
 Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 1057 (*derivs*)
 Vanchagova, V.K. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 989 (*props*)

C₉H₂₁B**B-00623****Tripropylborane, 10Cl, 9Cl**

[1116-61-6]



M 140.075

Liq., sensitive to air. Mp –65°. Bp 156°, 160°, 164°.

▷ED2450000.

Rosenblum, L., *J. Org. Chem.*, 1960, **25**, 1652 (*synth*)Leleu, J., *Cah. Notes Doc.*, 1977, **88**, 361; *CA*, **88**, 26973m (*rev*, *haz*)Postnikova, T.K. *et al*, *CA*, 1978, **90**, 5469 (*ms*)Spoormaker, T., *Recl. Trav. Chim. Pays-Bas*, 1979, **98**, 380 (*nmr*)Yamamoto, Y. *et al*, *Tetrahedron Lett.*, 1980, **21**, 3599 (*cmr*)**C₉H₂₁BO****B-00624****Dibutylmethoxyborane***Dibutylborinic acid methyl ester*, 10Cl, 9Cl, 8Cl. *Methyl dibutylborinate*

[2344-21-0]



M 156.074

Air- and moisture-sensitive liq. d_{20}^{20} 0.785. Bp₄₂ 90–1°, Bp₅ 56–8°. n_D^{20} 1.4180, 1.4144.Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1961, **136**, 82 (*synth*, *props*)Mikhailov, B.M. *et al*, *zv. Akad. Nauk SSSR, Ser. Khim.*, 1962, 1756 (*synth*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2112 (*synth*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1785, 1798 (*synth*)Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*nmr*, *synth*)Bagdasaryan, G.B. *et al*, *Arm. Khim. Zh.*, 1979, **32**, 303; *CA*, **92**, 6578r (*synth*, *props*)**C₉H₂₁BO****B-00625****Methoxybis(1-methylpropyl)borane***Bis(1-methylpropyl)borinic acid methyl ester*, 10Cl, 9Cl.*Di-sec-butylborinic acid methyl ester*, 8Cl. *Di-sec-butyl-methoxyborane*. *Methyl di-sec-butylborinate*

[32705-45-6]



M 156.074

Used in synth. of di-sec-butyl ketone *via* reaction with dichloromethyl methyl ether. Air- and moisture-sensitive liq.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2112 (*synth*)Carlson, B.A. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6876 (*use*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1785 (*synth*)Brown, H.C. *et al*, *J. Org. Chem.*, 1977, **42**, 2533; 1979, **44**, 2417 (*synth*)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **131**, 163 (*props*)**C₉H₂₁BO****B-00626****Methoxybis(2-methylpropyl)borane***Bis(2-methylpropyl)borinic acid methyl ester*, 10Cl, 9Cl.*Diisobutylborinic acid methyl ester*, 8Cl. *Diisobutyl-methoxyborane*. *Methyl diisobutylborinate*

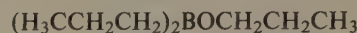
[17832-17-6]



M 156.074

Used in synth. of diisobutyl ketone *via* reaction with dichloromethyl methyl ether. Air- and moisture-sensitive liq.McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 4362 (*props*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2112 (*synth*)Carlson, B.A. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6876 (*use*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1785 (*synth*)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **131**, 163 (*props*)Gupta, S.K., *J. Organomet. Chem.*, 1978, **156**, 95 (*props*)**C₉H₂₁BO****B-00627****Propoxydipropylborane***Dipropylborinic acid propyl ester*, 10Cl

[72168-54-8]



M 156.074

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs.

Bagdasaryan, G.B. *et al*, *Arm. Khim. Zh.*, 1979, **32**, 192; *CA*, **92**, 6577q.Bagdasaryan, G.B. *et al*, *Arm. Khim. Zh.*, 1980, **33**, 744; *CA*, **94**, 156990z.**C₉H₂₁BO₃****B-00628****Triisopropoxyborane***Boric acid (H₃BO₃) tris(1-methylethyl) ester*, 10Cl, 9Cl.*Triisopropyl borate*. *Isopropyl borate*

[5419-55-6]



M 188.073

Catalyst, vulcanizing agent, insect sterilant. Moisture-sensitive liq. Sol. non-hydroxylic solvs. d_4^{20} 0.815. Bp 139–40°, Bp₇₆ 75°. n_D^{25} 1.3750.

▷ED5950000.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 3613 (*synth*, *props*)Steinberg, H. *et al*, *Ind. Eng. Chem.*, 1957, **49**, 174 (*synth*, *props*)Christopher, P.M. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 437; 1979, **24**, 67 (*props*)Brown, C.A., *J. Am. Chem. Soc.*, 1973, **95**, 4100 (*use*)Jaworski, K. *et al*, *Przem. Chem.*, 1981, **60**, 18; *CA*, **95**, 42269m (*synth*)**C₉H₂₁BO₃****B-00629****Tripropoxyborane***Boric acid (H₃BO₃) tripropyl ester*, 10Cl, 9Cl, 8Cl. *Tripropyl borate*. *Propyl borate*. *Tripropyl orthoborate*.*Tris(propoxy)borane*

[688-71-1]



M 188.073

Catalyst for crosslinking of epoxy resins; used as heat stabilizer; insect sterilant. Moisture-sensitive liq. Sol. non-hydroxylic solvs. d_4^{20} 0.858, 0.861. Bp 177°, Bp₁₂ 68.5–69°. n_D^{20} 1.3948, 1.3969.

▷ED5785000.

Gerrard, W. *et al*, *J. Chem. Soc.*, 1955, 3084 (*synth*, *props*)O'Brien, K.G., *Aust. J. Chem.*, 1957, **10**, 91 (*synth*, *props*)Fallon, P.J. *et al*, *Int. J. Mass Spectrom. Ion Phys.*, 1968, **1**, 133 (*ms*)Christopher, P.M. *et al*, *J. Chem. Eng. Data*, 1969, **14**, 437 (*props*)Maijs, L. *et al*, *CA*, 1973, **79**, 131073 (*pmr*)Pola, M. *et al*, *Collect. Czech. Chem. Commun.*, 1979, **44**, 3688 (*ir*, *props*)Jaworski, K. *et al*, *Przem. Chem.*, 1981, **60**, 18; *CA*, **95**, 42269m (*synth*)Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 1069.

C₉H₂₁BS**B-00630****Dibutyl(methylthio)borane***Dibutylthioborinic acid methyl ester*, 10Cl, 9Cl, 8Cl.*Methylthiodibutylborane*

[20524-64-5]



M 172.135

Used in synth. of dibutylhalogenoboranes. Colourless liq., air- and moisture-sensitive. Bp_{1.1} 43-4°, Bp₁ 27°. m/e 115 for characteristic ion RB=SMe⁺.

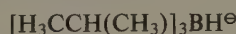
Schmidt, M. *et al*, *Z. Naturforsch.*, B, 1968, **23**, 1258 (*synth*)Siebert, W. *et al*, *J. Organomet. Chem.*, 1970, **22**, 511 (*synth*, *props*)Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 531 (*use*)Siebert, W. *et al*, *J. Organomet. Chem.*, 1975, **90**, 13 (*props*)Pelter, A. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 2087 (*use*, *synth*, *ms*)**C₉H₂₁BS****B-00631****Diethyl(pentylthio)borane***Diethylthioborinic acid pentyl ester*, 10Cl.*Amylthio(diethyl)borane*

[67682-92-2]



M 172.135

Used in synth. of allyldiethylboranes. Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs. Bp₄ 69-70°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1392 (*synth*, *props*)Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth*)**C₉H₂₂B⁺****B-00632****Triisopropylhydroborate***Hydrotris(1-methylethyl)borate*(1-), 10Cl

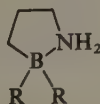
M 141.083 (ion)

K salt: [63706-88-7].C₉H₂₂BK M 180.181

Air- and moisture-sensitive.

Strouf, O. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 391 (*props*)Brown, C.A. *et al*, *J. Organomet. Chem.*, 1978, **156**, 111 (*synth*)**C₉H₂₂BN****B-00633****(3-Aminopropyl)dipropylborane**

[61018-71-1]



M 155.090

Wrongly indexed as the 2-isomer in 10Cl. Liq. (?). Dist. under Ar.

Gal'chenko, G.L. *et al*, *Tr. Khim. Khim. Tekhnol.*, 1975, 17; *CA*, **86**, 9289j (*props*)Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2226; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2048 (*synth*, *ms*)**C₉H₂₂BO₃⁺****B-00634****Triisopropoxyhydroborate***Hydrotris(2-propanolato)borate*(1-), 10Cl, 9Cl. *Hydrotriisopropoxyborate*. *Triisopropoxyborohydride*.*Triisopropoxyhydridoborate*

M 189.081 (ion)

K salt: [42278-67-1]. *Feeble hydride*.C₉H₂₂BKO₃ M 228.179

Catalyst for carbonylation of organoboranes. Mild reducing agent, comparable in props. to NaBH₄, but sol. in THF. Moisture-sensitive. Sol. THF.

Commercially available as THF soln.

▷Flash pt. of THF soln. -15°

Brown, C.A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 391 (*synth*)Brown, H.C., *CA*, 1974, **80**, 37205y.Brown, C.A. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 3964 (*props*, *use*)Brown, H.C. *et al*, *Synthesis*, 1979, 701 (*use*)Steinmetz, G.R. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 1278 (*use*)**C₉H₂₂BO₆⁺****B-00635****Hydrotris(2-methoxyethoxy)borate***Hydrotris(2-methoxyethanolato-O'-borate)*(1-), 10Cl.*Monohydridotris(2-methoxyethoxy)borate*

M 237.079 (ion)

Na salt: [57972-25-5].C₉H₂₂BNaO₆ M 260.069

Reducing agent for aldehydes, ketones, acyl chlorides.

Moisture-sensitive. Sol. arom. hydrocarbons, ethers.

Kritz, O. *et al*, *Collect. Czech. Chem. Commun.*, 1977, **42**, 421 (*use*)*Czech. Pat.*, 174 515, (1978); *CA*, **90**, 39423y (*use*)Kritz, O. *et al*, *Collect. Czech. Chem. Commun.*, 1978, **43**, 3130 (*struct*, *ir*, *nmr*)**C₉H₂₄B₃N₃****B-00636****2,4,6-Triethyl-1,3,5-trimethylborazine**, 10Cl, 9Cl, 8Cl

B,B,B-Triethyl-N,N,N-trimethylborazole

[715-62-8]

As 2,4,6-Tribromoborazine, B-00015 with

X = Et, Y = Me

M 206.739

Liq., sl. sensitive to air. Fp 1-2°. Bp_{0.65} 82°, 98°. n_D^{22.5} 1.4791.

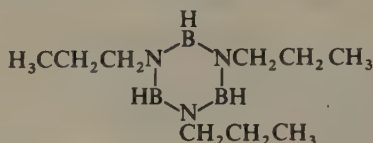
Ryschkewitsch, G.E. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 4515 (*synth*, *props*)Watanabe, H. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 2428 (*props*, *synth*)Phillips, C.S.G. *et al*, *Z. Anal. Chem.*, 1963, **197**, 202 (*synth*, *chromatog*)Cros, G. *et al*, *Bull. Soc. Chim. Fr.*, 1969, 2601 (*nmr*)Gallais, F. *et al*, *J. Chim. Phys. Phys. Chim. Biol.*, 1969, **66**, 122; *CA*, **70**, 101171g (*props*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

C₉H₂₄B₃N₃

B-00637

1,3,5-Tripropylborazine, 9Cl

Hexahydro-1,3,5-tripropyl-1,3,5-triazatriborine. N,N',N''-Tripropylborazole



M 206.739

Bp 203°.

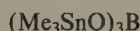
Hough, W.V. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 864 (*synth*)Powell, P. *et al*, *J. Chem. Soc. (A)*, 1971, 2951 (*ms*)C₉H₂₇BO₃Sn₃

B-00638

Tris[(trimethylstannyl)oxy]borane, 9Cl

Tris(trimethylstannyl)borate

[51823-76-8]



M 550.191

Colourless liq. Bp₁₄ 130-2°.Mehrotra, S.K. *et al*, *J. Organomet. Chem.*, 1974, **65**, 361.Mehrotra, S.K. *et al*, *Indian J. Chem., Sect. A*, 1976, **14**, 137.C₉H₂₇B₃N₆

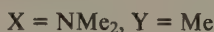
B-00639

2,4,6-Tris(dimethylamino)-1,3,5-trimethylborazine, 8Cl

N,N,N',N',N'',N'',1,3,5-Nonamethyl-2,4,6-borazinetriamine, 10Cl

[16912-59-7]

As 2,4,6-Tribromoborazine, B-00015 with



M 251.783

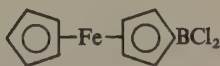
Solid. Mp 66°. Bp₃ 122-4°. V. slow dec. at 360° *in vacuo*.Niedenzu, K. *et al*, *Chem. Ber.*, 1961, **94**, 671 (*synth*)Gutmann, V. *et al*, *Monatsh. Chem.*, 1963, **94**, 1071 (*synth, ir*)Toeniskoetter, R.H. *et al*, *Inorg. Chem.*, 1963, **2**, 29 (*props*)Meller, A. *et al*, *Monatsh. Chem.*, 1967, **98**, 1358 (*ir*)Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (*nmr, cmr*)C₁₀H₉BCl₂Fe

B-00640

Dichloroborylferrocene, 9Cl, 8Cl

Dichloroferrocenylborane. Ferrocenyldichloroborane

[32007-87-7]



M 266.744

Red-orange solid. Sol. hexane. Mp 33°.

Py complex: [31811-20-8]. Dichloroferrocenyl(pyridine)-boron, 10Cl.

C₁₅H₁₄BCl₂FeN M 345.845

Yellow-orange air-sensitive solid by subl. Sol. hexane.

Mp 162-5°.

Kotz, J.C. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 4503 (*synth, pmr*)Kotz, J.C. *et al*, *Inorg. Chem.*, 1970, **9**, 1661 (*synth, ir, pmr, uv, nmr*)Ruf, W. *et al*, *J. Organomet. Chem.*, 1974, **64**, C45 (*synth, pmr*)Renk, T. *et al*, *J. Organomet. Chem.*, 1976, **120**, 1.C₁₀H₉BF₂O₂

B-00641

Difluoro(1-phenyl-1,3-butanedionato-O,O')boron, 10Cl

Benzoylacetatodifluoroborane. Benzoylacetatodiboron difluoride. Boron benzoylacetone difluoride

[14871-98-8]

As Difluoro(2,4-pentanedionato-O,O')boron, B-00320 with



M 209.987

Cryst. (C₆H₆, CHCl₃ or EtOAc). Mp 155°.

▷ED7650000.

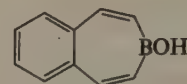
Morgan, G.T. *et al*, *J. Chem. Soc.*, 1924, **125**, 1963 (*synth*)Durden, J.A. *et al*, *J. Org. Chem.*, 1965, **30**, 1684 (*synth, ir*)Smith, J.A.S. *et al*, *J. Chem. Soc. (A)*, 1966, 1749 (*nmr*)Trestianu, A. *et al*, *Tetrahedron*, 1968, **24**, 2499 (*pmr*)Hanson, A.W. *et al*, *Acta Crystallogr., Sect. B*, 1972, **28**, 1961 (*cryst struct*)Nepliyuev, V.M. *et al*, *Zh. Org. Khim.*, 1980, **16**, 2588 (*synth*)C₁₀H₉BO

B-00642

3-Hydroxy-3H-3-benzoborepin, 9Cl, 8Cl

3(3H)-Benzoborepin-3-ol

[31569-68-3]



M 155.991

Mp ca. 110°. Sensitive to air.

Axelrad, G. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 291 (*synth, ir, ms, uv, pmr*)C₁₀H₉BO₂

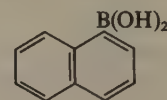
B-00643

Dihydroxy(1-naphthalenyl)borane

(1-Naphthalenyl)boronic acid, 10Cl, 9Cl, 8Cl. α-Na-

phthaleneboronic acid. 1-(Dihydroxyboryl)naphthalene

[13922-41-3]



M 171.990

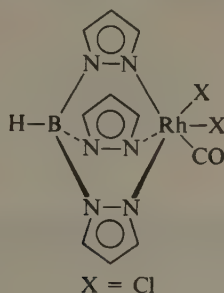
Used for detection of bifunctional compds. by glc analysis. Cryst. (C₆H₆). Sol. Et₂O. Mp 225-7°.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1960, 1590.Nencetti, G. *et al*, *Ann. Chim. (Paris)*, 1963, **53**, 1875; *CA*, **60**, 12037eBruce, R.L. *et al*, *Aust. J. Chem.*, 1971, **24**, 1085 (*props, use*)Kliegel, W. *et al*, *Chem. Ber.*, 1977, **110**, 1623.Poole, C.F. *et al*, *J. Chromatogr.*, 1978, **158**, 33 (*use*)Youngless, T.L. *et al*, *J. Mass Spectrom. Ion Phys.*, 1980, **34**, 9 (*props*)

The first digit of the Entry number defines the Supplement in which the Entry is found. 0 indicates the Main Work

C₁₀H₁₀BCl₂N₆ORh

B-00644

Carbonyldichloro[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)]-rhodium
Carbonyldichloro[tris(pyrazolyl)borato]rhodium



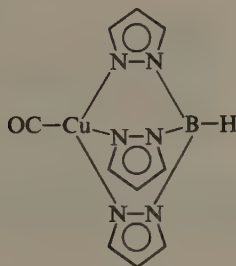
M 414.850

Struct. by analogy with Carbonyl[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)]diiodorhodium, B-00648. Loses CO slowly in solid state and rapidly on attempted recryst. ir ν_{CO} 2129 cm⁻¹ (KBr).

Cocivera, M. *et al*, *Organometallics*, 1982, **1**, 1125 (*synth*, *ir*)C₁₀H₁₀BCuN₆O

B-00645

Carbonyl[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)-*N*²,*N*^{2'}-*N*^{2''}]copper, 9Cl
[52374-64-8]



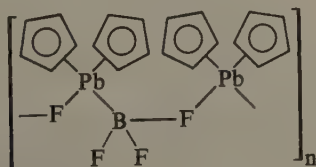
M 304.585

Cryst. (pet. ether). Sol. Me₂CO, THF. Mp 164-6°. Stable under CO atm. Rapid oxid. in soln.

Bruce, M.I. *et al*, *J. Chem. Soc., Dalton Trans.*, 1973, 2433 (*synth*)Churchill, M.R. *et al*, *Inorg. Chem.*, 1975, **14**, 2051 (*cryst struct*)*Inorg. Synth.*, 1982, **21**, 108 (*synth*)C₁₀H₁₀BF₃Pb

B-00646

Bis(cyclopentadienyl)lead boron trifluoride
Plumbocene compd. with trifluoroborane(1:1), 10Cl
[50647-92-2]



M 405.194

Polymer chain struct. thought to be as shown. Pale-yellow, thermally stable, air-sensitive solid. Insol. most org. solvs., sl. sol. DMSO. Mp >360°.

Holliday, A.K. *et al*, *J. Chem. Soc., Dalton Trans.*, 1979, 228 (*synth*, *pmr*)C₁₀H₁₀BF₃Sn

B-00647

Di- π -cyclopentadienyl(trifluoroboryl)tin, 8Cl
Bis(cyclopentadienyl)tin boron trifluoride
(C₅H₅)₂SnBF₃

M 316.684

Air-sensitive white needles (THF). Mp 58-60°.

Harrison, P.G. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 2577.C₁₀H₁₀BI₂N₆ORh

B-00648

Carbonyl[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)]diiodo-rhodium, 9Cl
Carbonyldiiodo[tris(pyrazolyl)borato]rhodium
[52504-76-4]

As Carbonyldichloro[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)]rhodium, B-00644 with

X = I

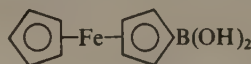
M 597.753

Deep-red cryst. (CH₂Cl₂/hexane). ir ν_{CO} 2095 cm⁻¹ (KBr).

Cocivera, M. *et al*, *Organometallics*, 1982, **1**, 1125 (*synth*, *pmr*, *ir*, *struct*)C₁₀H₁₁BFeO₂

B-00649

Ferroceneboronic acid
Boronferrocene, 9Cl. Ferrocenylboronic acid
[12152-94-2]



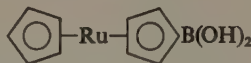
M 229.853

Yellow cryst. Mp 143-8° (sealed tube). Rapidly hydrol. by hot H₂O giving ferrocene.

Nesmeyanov, A.N. *et al*, *Dokl. Akad. Nauk SSSR*, 1959, **126**, 1004 (*synth*)Shechter, H. *et al*, *J. Org. Chem.*, 1961, **26**, 1034 (*synth*)Nesmeyanov, A.N. *et al*, *Izv. Akad. Nauk SSSR, Otd. Khim. Nauk*, 1968, 2371 (*synth*)*Org. Reactions*, 1969, **17**, 1 (*synth*)Epton, R. *et al*, *J. Organomet. Chem.*, 1978, **150**, 93, 101 (*synth*, *ir*, *pmr*, *ms*)C₁₀H₁₁BO₂Ru

B-00650

Ruthenoceneboronic acid
Boronruthenocene, 9Cl
[38816-64-7]



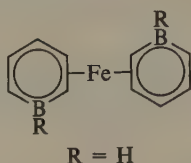
M 275.076

White cryst. Sol. Et₂O.Nesmeyanov, A.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1972, 1823 (*synth*)

C₁₀H₁₂B₂Fe

B-00651

Bis(η⁶-boratabenzene)iron, 10Cl
[68344-23-0]



M 209.672

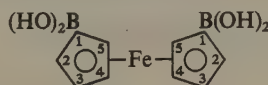
Red octahedral cryst. Bp 165° subl. Undergoes nucleophilic substitution at B and electrophilic substitution at C.

Ashe, A.J. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 7066 (*synth*, *ms*, *pmr*, *nmr*)

C₁₀H₁₂B₂FeO₄

B-00652

1,1'-Ferrocenediboronic acid
Ferrocenylene-1,1'-diboronic acid



M 273.669

Yellow cryst. (H₂O). Mp 180° dec., 220° dec. Unstable in hot water.

Nesmeyanov, A.N. *et al*, *Chem. Ber.*, 1960, **93**, 2717 (*synth*, *use*)

Nesmeyanov, A.N. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1968, 2371 (*synth*)

Org. React., 1969, **17**, 1 (*synth*)

C₁₀H₁₃B

B-00653

1-Phenylborolane, 10Cl, 9Cl
1-Phenylboracyclopentane.
Phenylcyclotetramethyleneborin
[1075-17-8]

As Borolane, B-00227 with

R = Ph

M 144.023

Air-sensitive liq. Sol. nonhydroxylic solvs. d₂₀ 0.924. Mp –19°. Bp₁₁ 85–7°, Bp₁ 50–1°. n_D²⁰ 1.5278.

▷ Spont. inflammable

Torssell, K. *et al*, *Acta Chem. Scand.*, 1954, **8**, 1779 (*synth*)

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1960, **133**, 119 (*synth*)

Greenwood, N.N. *et al*, *J. Chem. Soc.*, 1965, 448 (*synth*, *ir*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*nmr*)

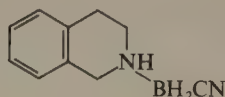
Schmidt, A. *et al*, *Z. Naturforsch., B*, 1978, **33**, 855.

Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)

C₁₀H₁₃BN₂

B-00654

Cyanoborane tetrahydroisoquinoline
(Cyano-C)dihydro(1,2,3,4-tetrahydroisoquinoline)boron, 10Cl, 9Cl. Boranecarbonitrile, compd. with 1,2,3,4-tetrahydroisoquinoline (1:1)
[73109-50-9]



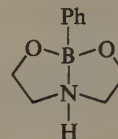
M 172.036

Singh, H. *et al*, *Indian J. Chem., Sect. B*, 1979, **18**, 312 (*synth*)

C₁₀H₁₄BNO₂

B-00655

2-Phenyl-6-aza-1,3-dioxo-2-boracyclooctane
[[2,2'-Iminobis(ethanolato)](2-)-N,O,O']phenylboron, 10Cl. B-Phenyldiptychboroxazolidine
[56296-15-2]



M 191.036

Colourless cryst. (EtOH/Me₂CO). Stable in air.

Associated in soln., MW(Rast) >600. Mp 214–5° (209.5–210°). Bp_{0.04} 180° subl.

Letsinger, R.L. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 2491 (*synth*)
Musgrave, O.C. *et al*, *Chem. Ind. (London)*, 1955, 1552 (*synth*, *ir*)

Rettig, S.J. *et al*, *Can. J. Chem.*, 1975, **53**, 1393 (*struct*)

Roscoe, C.W. *et al*, *J. Pharm. Sci.*, 1977, **66**, 1505.

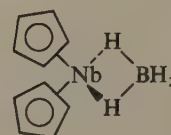
Mazeika, I. *et al*, *Zh. Obshch. Khim.*, 1979, **49**, 2528 (*ms*)

Csuk, R. *et al*, *Monatsh. Chem.*, 1981, **112**, 879.

C₁₀H₁₄BNb

B-00656

Bis(η⁵-2,4-cyclopentadien-1-yl)[tetrahydroborato(1-)-H,H']-niobium, 9Cl
Bis(cyclopentadienyl)niobium borohydride
[37298-41-2]



M 237.937

Dark-green solid (toluene), highly air-sensitive. Sol. Et₂O, aromatic hydrocarbons. Bp 80° subl. (part. dec.).

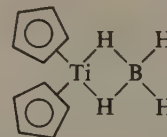
▷ Pyrophoric in air

Kirillova, N.I. *et al*, *Zh. Strukt. Khim.*, 1974, **15**, 718 (*struct*)
Inorg. Synth., 1976, **16**, 107 (*synth*, *ir*)

C₁₀H₁₄BTi

B-00657

Bis(η⁵-2,4-cyclopentadien-1-yl)[tetrahydroborato(1-)-H,H']-titanium, 10Cl
Bis(η⁵-cyclopentadienyl)titanium tetrahydridoborate.
Titanocene borohydride
[12772-20-2]



M 192.911

Purple needles. Subl. *in vacuo*.

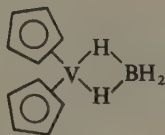
Nöth, H. *et al*, *Naturwissenschaften*, 1960, **47**, 57 (*esr*)

Davies, N. *et al*, *J. Chem. Soc. (A)*, 1969, 2601 (*ir*)

Marks, T.J. *et al*, *Inorg. Chem.*, 1972, **11**, 2540 (*synth*, *ir*)

Melmed, K.M. *et al*, *Inorg. Chem.*, 1973, **12**, 232 (*cryst struct*)
Inorg. Synth., 1977, **17**, 91 (*synth*)

C₁₀H₁₄BV **B-00658**
Bis(η⁵-2,4-cyclopentadien-1-yl)[tetrahydroborato(1-)-H, H'-
vanadium, 9Cl
Bis(cyclopentadienyl)vanadium borohydride
 [55744-43-9]



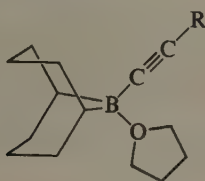
M 195.972

Deep-violet cryst. by subl. Sol. aromatic hydrocarbons.
 Bp_{0.001} 55° subl. Dec. slowly at r.t. under N₂. Dec.
 >80°. Diamagnetic.

▷ Pyrophoric

Marks, T.J. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 1439 (*synth*, *ir*, *pmr*)

C₁₀H₁₅B **B-00659**
9-Ethynyl-9-borabicyclo[3.3.1]nonane, 10Cl
B-Ethynyl-9-BBN



THF complex

R = H

M 146.039

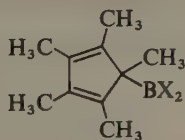
THF complex: [63220-83-7]. *1,5-Cyclooctanediylethynyl(tetrahydrofuran)boron*, 10Cl.

C₁₄H₂₃BO M 218.145

White cryst. solid, dec. on warming from -78°.

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **131**, 163 (*synth*, *nmr*)

C₁₀H₁₅BBr₂ **B-00660**
Dibromo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, 10Cl
5-Dibromoboryl-1,2,3,4,5-pentamethyl-1,3-cyclopentadiene
 [71245-46-0]



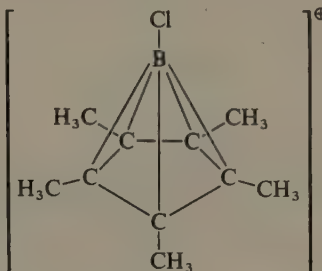
X = Br

M 305.847

Shows fluxional behavior in nmr spectrum. Prep'd. from the reaction of trimethyl(pentamethylcyclopentadienyl)germane with dibromoborane. Sol. CH₂Cl₂. Bp_{0.4} 60°.

Jutzi, P. *et al*, *Chem. Ber.*, 1979, **112**, 2481, 2488 (*synth*, *nmr*, *props*)

C₁₀H₁₅BCl[⊕] **B-00661**
Chloro[(1,2,3,4,5-η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]boron(1+)
1-Chloro-2,3,4,5,6-pentamethyl-2,3,4,5,6-pentacarba-hexaborane(6)



M 181.492 (ion)

nido-. Stable deriv. of one boron nido-carborane, isoelectronic with B₆H₁₀. Sol. CH₂Cl₂.

Tetrachloroborate: [71237-75-7].

C₁₀H₁₅B₂Cl₅ M 334.114

Needles (CH₂Cl₂/pentane). Mp 97° dec.

Jutzi, P. *et al*, *J. Organomet. Chem.*, 1978, **161**, C5 (*synth*, *nmr*)

Jutzi, P. *et al*, *Chem. Ber.*, 1979, **112**, 2488 (*synth*, *nmr*, *ms*)

C₁₀H₁₅BCIN **B-00662**
Chloro(diethylamino)phenylborane, 8Cl
1-Chloro-N,N-diethyl-1-phenylboranamine, 10Cl, 9Cl
 [33441-65-5]

PhBCINe_t

M 195.498

Air- and moisture-sensitive liq. Bp_{0.1} 50°.

Sheikh, S.U., *Bull. Chem. Soc. Jpn.*, 1976, **49**, 2879.

Cragg, R.H. *et al*, *J. Organomet. Chem.*, 1981, **217**, 1; 1982, **232**, 201 (*synth*, *pmr*, *nmr*)

Meller, A. *et al*, *Z. Naturforsch.*, **B**, 1981, **36**, 1411.

C₁₀H₁₅BCl₂ **B-00663**
Dichloro(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, 10Cl
(1,2,3,4,5-Pentamethyl-2,4-cyclopentadien-1-yl)dichloroborane
 [60828-63-9]

As Dibromo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, B-00660 with

X = Cl

M 216.945

Undergoes rapid degenerate sigmatropic rearr. Air- and moisture-sensitive colourless liq. Sol. CH₂Cl₂. Bp_{0.5} 55°.

▷ Ignites in air

Py complex: [71245-48-2]. *Dichloro(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)(pyridine)boron*, 10Cl.

C₁₅H₂₀BCl₂N M 296.046

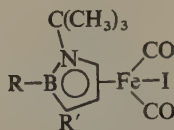
Solid. Mp 125° dec.

Jutzi, P. *et al*, *Chem. Ber.*, 1979, **112**, 2481 (*synth*, *nmr*)

C₁₀H₁₅BFeINO₂

B-00664

[(3,4,5- η)-1-*tert*-Butyl-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-B²,N¹]iodoiron
Dicarbonyl[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-B²,N¹]iodoiron,
10Cl
[75334-22-4]



R = Me, R' = H

M 374.796

Red-brown cryst. (pet. ether). Mp 87-8°.

Schulze, J. *et al*, *J. Organomet. Chem.*, 1980, **193**, 83 (*synth*, *ms*, *ir*, *pmr*, *nmr*)C₁₀H₁₅BI₂

B-00665

Diiodo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, 9Cl
(1,2,3,4,5-Pentamethyl-2,4-cyclopentadien-1-yl)diiodoborane. 5-Diiodoboryl-1,2,3,4,5-pentamethyl-1,3-cyclopentadiene
[71245-47-1]

As Dibromo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, B-00660

X = I

M 399.848

Fluxional molecule under normal conditions. Prepd. *in situ* from BI₃ and trimethyl(pentamethylcyclopentadienyl)germane. Air- and moisture-sensitive. Sol. CH₂Cl₂. *pmr* δ (CH₃) 1.72(s) ppm.

Jutzi, P. *et al*, *Chem. Ber.*, 1979, **112**, 2481, 2488 (*synth*, *use*)
Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)

C₁₀H₁₅BS₂

B-00666

Bis(ethylthio)phenylborane
Phenyldithioboronic acid diethyl ester, 10Cl, 9Cl. Di-thiobenzeneboronic acid diethyl ester, 8Cl. Bisethylthio phenylboronate. Diethyl phenyldithioboronate
[1870-68-4]

PhB(SEt)₂

M 210.159

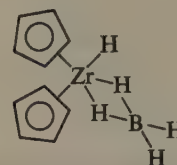
Liq., sensitive to moist air. Sol. non-hydroxylic solvs.
Bp_{1.5} 104-5° (Bp_{0.7} 77-8°). *n*_D²³ 1.5538, *n*_D¹⁹ 1.5779.

Abel, E.W. *et al*, *J. Chem. Soc.*, 1965, 3045 (*synth*, *props*)
Lalancette, J.M. *et al*, *Tetrahedron Lett.*, 1965, 2547 (*ir*, *synth*, *props*)

Cragg, R.H. *et al*, *J. Chem. Soc. (A)*, 1967, 947 (*props*, *synth*, *ir*)Cragg, R.H. *et al*, *J. Inorg. Nucl. Chem.*, 1973, **35**, 3685 (*ir*, *ms*, *props*, *nmr*)Niedenau, K. *et al*, *Synth. React. Inorg. Metal-Org. Chem.*, 1980, **10**, 373 (*synth*, *nmr*)C₁₀H₁₅BZr

B-00667

Bis(η^5 -2,4-cyclopentadien-1-yl)hydro[tetrahydroborato(1-)-*H*,*H'*]zirconium
Bis(η -cyclopentadienyl)hydrido(tetrahydridoborato)-zirconium
[12116-93-7]

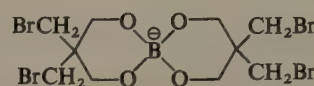


M 237.259

White solid. Subl. *in vacuo*.James, B.D. *et al*, *Inorg. Chem.*, 1967, **6**, 1979 (*synth*, *ir*, *ms*, *nmr*)Marks, T.J. *et al*, *Inorg. Chem.*, 1972, **11**, 2540 (*ir*, *raman*)Marks, T.J. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 3397 (*nmr*)C₁₀H₁₆BBr₄O₄[⊖]

B-00668

Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O*,*O'*]borate(1-), 10Cl



M 530.660 (ion)

Salts used as flame retardants for urethane polymers, epoxy resins, and polyesters.

Na salt: [74211-05-5].C₁₀H₁₆BBr₄NaO₄ M 553.650

No phys. props. abstracted.

Ca salt: [74210-95-0].C₂₀H₃₂B₂Br₈CaO₈ M 1101.400

No phys. props. abstracted.

K salt: [76772-21-9].C₁₀H₁₆BBr₄KO₄ M 569.758

No phys. props. abstracted.

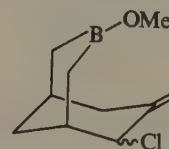
Guanidinium salt: [74211-04-4].C₁₁H₂₂BBr₄N₃O₄ M 590.739

No phys. props. abstracted.

European Pat., 5 497, (1979); *CA*, **93**, 46174h (*use*)Austrian Pat., 357 336, (1980); *CA*, **93**, 151192k (*use*)Austrian Pat., 358 063, (1980); *CA*, **94**, 103330cC₁₀H₁₆BClO

B-00669

6-Chloro-3-methoxy-7-methylene-3-borabicyclo[3.3.1]nonane, 10Cl
6-Chloro-7-methylene-3-MBBN
[37490-52-1]



M 198.499

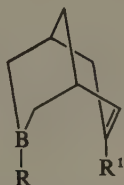
Air- and moisture-sensitive.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1972, **203**, 837 (*props*)Mikhailov, B.M., *Pure Appl. Chem.*, 1974, **39**, 505 (*rev*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2056; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1927 (*use*)

C₁₀H₁₆BClO

B-00670

7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]non-6-ene,
10Cl, 9Cl
[37490-50-9]

R = OMe, R¹ = CH₂Cl

M 198.499

Air- and moisture-sensitive.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1972, **203**, 837.Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 1102, 1108.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2056; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1927 (synth)Mikhailov, B.M. *et al*, *CA*, 1978, **88**, 190937y (synth)C₁₀H₁₆BN

B-00671

(Diethylamino)di-1-propynylborane, 8Cl

N,N-Diethyl-1,1-di-1-propynylboranamine, 10Cl, 9Cl
[5271-93-2]

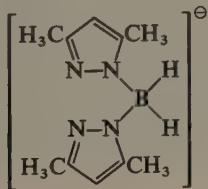
Et₂NB(C≡CCH₃)₂

M 161.053

Air- and moisture-sensitive liq. Bp₁ 90°, Bp_{0.001} 44-6°, 49°.Soulié, J. *et al*, *Bull. Soc. Chim. Fr.*, 1966, 3850 (ir, uv, synth)Berger, H.O. *et al*, *Z. Naturforsch.*, B, 1975, **30**, 641.Wrackmeyer, B. *et al*, *Chem. Ber.*, 1977, **110**, 1086 (nmr, pmr)Berger, H.O. *et al*, *Chem. Ber.*, 1980, **113**, 1235 (synth)C₁₀H₁₆BN₄[⊖]

B-00672

Bis(3,5-dimethyl-1H-pyrazolato-N')dihydroborate(1-), 9Cl
Dihydrobis(3,5-dimethyl-1-pyrazolyl)borate



M 203.073 (ion)

K salt: [53241-68-2].

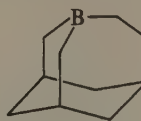
C₁₀H₁₆BKN₄ M 242.172

Cryst. (toluene).

Trofimenko, S., *Inorg. Chem.*, 1970, **9**, 2493 (synth)Trofimenko, S., *Chem. Rev.*, 1972, **72**, 497 (rev)McCurdy, W.H., *Inorg. Chem.*, 1975, **14**, 2292 (pmr)C₁₀H₁₇B

B-00673

3-Boratricyclo[4.3.1.1^{3,8}]undecane, 10Cl
3-Borahomoadamantane
[75612-44-1]



M 148.054

Complexes more stable than parent compd.

Me₃N complex: [75612-45-2].C₁₃H₂₆BN M 207.165

Cryst. (EtOH). Mp 150-6° (impure).

THF complex: [75612-46-3].

C₁₄H₂₅BO M 220.161

Cryst. (2-methylbutane). Mp 55-70° (impure).

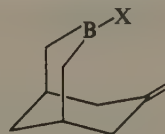
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1621; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **29**, 1164

(synth, pmr, derivs)

Mikhailov, B.M., *Pure Appl. Chem.*, 1980, **52**, 691 (synth)C₁₀H₁₇B

B-00674

3-Methyl-7-methylene-3-borabicyclo[3.3.1]nonane, 10Cl
7-Methylene-3-methyl-3-borabicyclo[3.3.1]nonane
[76170-55-3]



X = Me

M 148.054

Low melting, air-sensitive cryst. (pentane). Sol. ethers.

Bp₂₁ 77-80°. Predominately in the chair-chair conformn.Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 2188 (synth)Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1980, **201**, 81 (ir, cmr, pmr, synth)C₁₀H₁₇BN₂

B-00675

Bis(dimethylamino)phenylborane, 8Cl

N,N,N',N'-Tetramethyl-1-phenylboranedi-amine, 10Cl,
9Cl

[1201-45-2]

PhB(NMe₂)₂

M 176.068

Liq., sensitive to moisture. Sol. Et₂O. d₄¹⁹ 0.924. Bp₉ 91-
2°, Bp_{2.5} 61°. n_D²⁰ 1.5183.

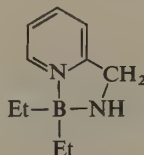
Niedenzu, K. *et al*, *Inorg. Chem.*, 1962, **1**, 738 (synth)Ruff, J.K., *J. Org. Chem.*, 1962, **27**, 1020 (synth, nmr, ir)Nöth, H. *et al*, *Chem. Ber.*, 1965, **98**, 962 (ir, synth)Barfield, P.A. *et al*, *J. Chem. Soc. (A)*, 1968, 554 (props)Cragg, R.H. *et al*, *J. Chem. Soc., Chem. Commun.*, 1972, 206 (ms)Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1977, **132**, 29 (nmr)Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (nmr)

C₁₀H₁₇BN₂

B-00676

Diethyl(2-pyridylmethylamino)borane

Diethyl(2-pyridinemethanaminato-N¹,N²)boron, 10Cl
[78577-62-5]



M 176.068

Exists in intramol. coord. form as shown.

Niedenzu, K. *et al*, *Z. Anorg. Allg. Chem.*, 1981, **473**, 139
(*synth*)

C₁₀H₁₇BO

B-00677

2-Methoxy-2-boratricyclo[3.3.1.1^{3,7}]decane, 10Cl, 9Cl

2-Methoxy-2-boraadamantane

[56348-11-9]

As 2-Boratricyclo[3.3.1.1^{3,7}]decane, B-00598 with

R = OMe

M 164.054

Liq., sensitive to air and moisture. Bp₂ 53-5° (55-60°).
n_D²⁰ 1.4960, 1.4965.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
1975, 980; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **24**, 899
(*synth*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
1977, 894; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 818
(*synth, props*)

Shchegoleva, T.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
1980, 2169.

C₁₀H₁₇BO

B-00678

3-Methoxy-7-methylene-3-borabicyclo[3.3.1]nonane, 10Cl

7-Methylene-3-methoxy-3-borabicyclo[3.3.1]nonane.

7-Methylene-3-MBBN

[39238-98-7]

As 3-Methyl-7-methylene-3-borabicyclo[3.3.1]nonane,
B-00674 with

X = OMe

M 164.054

Air- and moisture-sensitive. Sol. Et₃N, CH₂Cl₂.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci.*
Khim., 1972, **206**, 125 (*synth*)

Mikhailov, B.M. *et al*, *Pure Appl. Chem.*, 1974, **39**, 505 (*rev*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
1979, 2544; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2361
(*synth*)

Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (*cmr*,
pmr)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312.

C₁₀H₁₇BO₂

B-00679

9-Acetoxy-9-borabicyclo[3.3.1]nonane

9-(Acetyloxy)-9-borabicyclo[3.3.1]nonane, 10Cl. B-
Acetoxy-9-BBN

[62015-69-4]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with

R = —OAc

M 180.053

Not obt. pure. Solid by subl. Mp >100°. Part. dec.
during subl.

Kramer, G.W. *et al*, *J. Org. Chem.*, 1977, **42**, 2292.

Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1977, **132**, 9.

Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 3978.

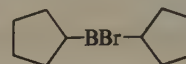
C₁₀H₁₈BBr

B-00680

Bromodicyclopentylborane, 10Cl, 9Cl

Dicyclopentylbromoborane

[57476-09-2]



M 228.966

Synthetic intermed. Air- and moisture-sensitive liq. Sol.
THF. Bp₁ 68-70°.

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 531, 532
(*synth, use*)

Pelter, A. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 2087

(synth)

Maddocks, P.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1981, 653
(*use*)

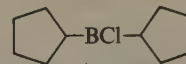
C₁₀H₁₈BCl

B-00681

Chlorodicyclopentylborane, 10Cl, 9Cl

Dicyclopentylchloroborane

[36140-18-8]



M 184.515

Synthetic intermed. Liq., air- and moisture-sensitive. V.
sol. non-hydroxylic solvs. Bp_{1,2} 69-70°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2112; 1976, **98**,
1785 (*synth*)

Yamamoto, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1975, **48**, 3682
(*props*)

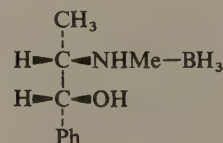
Brown, H.C. *et al*, *J. Org. Chem.*, 1977, **42**, 2533; 1979, **44**, 2417
(*synth, use*)

C₁₀H₁₈BNO

B-00682

Borane ephedrine

Trihydro[α-[1-(methylamino)ethyl]benzenemethanol-
N]boron, 10Cl. α-[1-(Methylamino)ethyl]benzenemetha-
nol compd. with borane(1:1). 1,N-Dimethyl-2-hydroxy-
2-phenylethylamine borane
[73798-15-9]



M 179.068

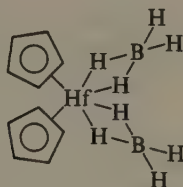
Chiral reducing complex.

Johnson, C.R. *et al*, *Tetrahedron Lett.*, 1979, 4713.

- Grundon, M.F. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1981, 231 (synth)
 Mancilla, T. *et al*, *Tetrahedron Lett.*, 1982, 23, 1561 (ir, raman, nmr)

C₁₀H₁₈B₂Hf B-00683

Bis(η⁵-2,4-cyclopentadien-1-yl)bis[tetrahydroborato(1-)-H, H']hafnium, 9Cl
 Hafnocene bis(borohydride)
 [56420-26-9]



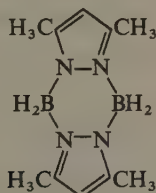
M 338.362

Colourless solid. Sol. Et₂O, aromatic hydrocarbons. Bp 110° subl. *in vacuo*. Dec. slowly in air. Deutero analogue also prepd.

- Davies, N. *et al*, *J. Chem. Soc. (A)*, 1969, 2601 (synth, ir, nmr)
 Marks, T.J. *et al*, *J. Am. Chem. Soc.*, 1975, 97, 3397 (nmr)

C₁₀H₁₈B₂N₄ B-00684

Bis[(3,5-dimethyl-1-pyrazolyl)borane]
 Bis[μ-(3,5-dimethyl-1H-pyrazolato-N¹:N²)]tetrahydrodiboron, 10Cl, 1,3,5,7-Tetramethyl-4H,4H,8H,8H-7a,8a-diaza-3a,4a-diazonia-4,8-diborata-s-indacene, 8Cl
 [16998-92-8]



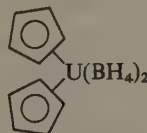
M 215.899

Cryst. Mp 184-5°.

- Trofimenko, S., *J. Am. Chem. Soc.*, 1967, 89, 3165 (synth, nmr)
Fr. Pat., 1 466 118, (1967); *CA*, 67, P43814u (synth)
 May, C.E. *et al*, *Z. Naturforsch., B*, 1976, 31, 1662 (ms)
 May, C.E. *et al*, *Z. Naturforsch., B*, 1978, 33, 220 (cmr)

C₁₀H₁₈B₂U B-00685

Bis(η⁵-2,4-cyclopentadien-1-yl)bis[tetrahydroborato(1-)-H, H']uranium, 10Cl
 Bis(cyclopentadienyl)uranium bis(tetrahydroborate)
 [65888-45-1]



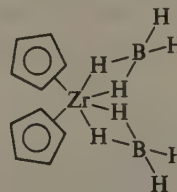
M 397.901

Red-brown solid. Sol. THF, dimethoxyethane. Subl. at 60° *in vacuo*. V. oxygen- and moisture-sensitive.

- Zanella, P. *et al*, *J. Organomet. Chem.*, 1977, 142, C21 (synth, struct, ir, nmr)

C₁₀H₁₈B₂Zr B-00686

Bis(η⁵-2,4-cyclopentadien-1-yl)bis[tetrahydroborato(1-)-H, H']zirconium, 10Cl
 Zirconocene bis(borohydride)
 [12083-77-1]



M 251.092

Pale-yellow solid by subl. Mp 155° dec. Bp 110-5° subl. *in vacuo*. Hydrolysed only slowly by water. BD₄ analogue also made.

- Nanda, R.K. *et al*, *Inorg. Chem.*, 1964, 3, 1798 (synth, ir)
 Davies, N. *et al*, *J. Chem. Soc. (A)*, 1969, 2601 (ir, nmr)
 Marks, T.J. *et al*, *J. Am. Chem. Soc.*, 1975, 97, 3397 (ir, nmr)
 Smith, B.E. *et al*, *J. Inorg. Nucl. Chem.*, 1976, 38, 1973 (synth, ir, raman)

C₁₀H₁₉B B-00687

Butyldi-2-propenylborane, 10Cl, 9Cl
 Diallylbutylborane. Butyldiallylborane
 [56347-96-7]



M 150.070

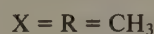
Synthetic intermed. Liq., sensitive to air and moisture. Sol. nonhydroxylic solvs. Bp₄ 33-5°. n_D²⁰ 1.4390.

- Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1975, 979; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 897 (synth)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1385 (synth, pmr)
 Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, 154, 113 (synth)
 Bubnov, Yu.N. *et al*, *Synthesis*, 1980, 902 (props)

C₁₀H₁₉B B-00688

3,7-Dimethyl-3-borabicyclo[3.3.1]nonane, 10Cl
 3,7-Dimethyl-3-BBN
 [76062-77-6]

As 3-Borabicyclo[3.3.1]nonane, B-00544 with



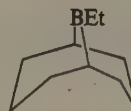
M 150.070

Air-sensitive liq. Sol. CH₂Cl₂. Bp₂₀ 80-9°.

- Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, 199, 171 (nmr)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (nmr)
 Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312.

C₁₀H₁₉B B-00689

9-Ethyl-9-borabicyclo[3.3.1]nonane, 9Cl
 B-Ethyl-9-BBN
 [52102-17-7]



M 150.070

Reagent for transfer of ethyl group. Liq., sensitive to air.
Bp₁₈ 88–91°, Bp_{0.2} 32–4°.

Koster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1964, **672**, 1 (synth)

Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1 (synth)

Brown, C.A., *J. Org. Chem.*, 1975, **40**, 3154 (synth)

Midland, M.M. *et al*, *J. Organomet. Chem.*, 1978, **156**, 203 (use)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 846 (nmr)

C₁₀H₁₉B

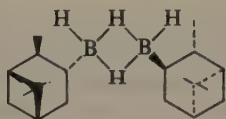
B-00690

Monoisopinocampheylborane

(2,6,6-Trimethylbicyclo[3.3.1]hept-3-yl)borane, 9Cl. 3-Pinanylborane, 8Cl. Dihydro(2,6,6-trimethylbicyclo[3.3.1]hept-3-yl)borane.

Isopinocampheylborane

[28875-08-3]



Dimer

M 150.070

Dimeric in uncomplexed state; avail. in both enantiomeric forms.

Dimer: [64350-68-1]. Di-μ-hydrodihydrobis(2,6,6-trimethylbicyclo[3.3.1]hept-3-yl)diboron, 10Cl.

C₂₀H₃₈B₂ M 300.140

Hydroborating agent for converting hindered alkenes into opt. active alcohols. Air- and moisture-sensitive distillable liq. Sol. THF. Bp_{0.05} 56–7°.

Disproportionates slowly at 25°.

NEt₃ complex: [64065-16-3]. (N,N-Diethylethanamine)-dihydro(2,6,6-trimethylbicyclo[3.3.1]hept-3-yl)boron, 10Cl. Monoisopinocampheylborane triethylamine. 3-Pinanylborane triethylamine.

C₁₆H₃₄BN M 251.261

Useful means of storage of parent compd. Air-sensitive viscous liq.

Tetramethylethylenediamine complex: [68297-73-4].

C₁₆H₃₅BN₂ M 266.276

Useful means of storage of parent compd. Treatment with BF₃ ppts. TMED. 2BF₃ leaving free monoisopinocampheylborane. Air-stable cryst. (pentane), stable for several weeks as cryst. or in THF soln. Mp 113–5°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 5514 (synth)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **135**, C10 (synth)

Brown, H.C. *et al*, *J. Org. Chem.*, 1978, **43**, 4395 (synth, use)

Brown, H.C. *et al*, *Synthesis*, 1978, 146 (synth)

Singaram, B. *et al*, *J. Organomet. Chem.*, 1978, **156**, C1 (synth)

Brown, H.C. *et al*, *Inorg. Chem.*, 1979, **18**, 51 (synth, nmr)

Mandal, A.K. *et al*, *J. Org. Chem.*, 1980, **45**, 3543 (use)

Bell, T.W., *J. Am. Chem. Soc.*, 1981, **103**, 1163 (use)

Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 2712, 5047 (use)

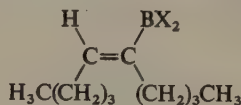
Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, 8, 267.

C₁₀H₁₉BCl₂

B-00691

(1-Butyl-1-hexenyl)dichloroborane, 10Cl

(5-Decenyl)dichloroborane



X = Cl

M 220.976

(Z)-form [64285-25-2]

Synthetic intermed. Colourless liq. Sol. CCl₄. Bp₂ 64–70°. Air- and moisture-sensitive; dec. on storage.

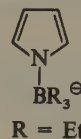
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1798 (synth)

Yatagai, H. *et al*, *J. Org. Chem.*, 1979, **44**, 2566 (pmr)

C₁₀H₁₉BN[⊖]

B-00692

Triethyl-1H-pyrrol-1-ylborate(1-), 10Cl



R = Et

M 164.077 (ion)

Li salt: [69350-02-3].

C₁₀H₁₉BLiN M 171.018

Shows electrical resistivity; used in battery electrolytes.

Na salt: [69350-01-2].

C₁₀H₁₉BNNa M 187.067

Shows electrical resistivity; used in battery electrolytes.

U.S.P., 4 104 450, (1978); CA, **90**, 124646t (use)

U.S.P., 4 117 213, (1978); CA, **90**, 124645s (synth, props, use)

Ger. Pat., 2 833 943, (1979); CA, **91**, 57173s (synth, props)

Newman, G.H. *et al*, *J. Electrochem. Soc.*, 1980, **127**, 2097 (props, use)

C₁₀H₁₉BO

B-00693

3-Methoxy-7-methyl-3-borabicyclo[3.3.1]nonane, 10Cl

7-Methyl-3-methoxy-3-borabicyclo[3.3.1]nonane. 7-Methyl-3-MBBN

[17428-08-9]

As 3-Borabicyclo[3.3.1]nonane, B-00544 with

X = OMe, R = CH₃

M 166.070

Air- and moisture-sensitive liq. Sol. CH₂Cl₂. Bp₂ 49.5–50.5°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2302; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2148 (synth)

Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (cmr, pmr)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (cmr, pmr)

Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312.

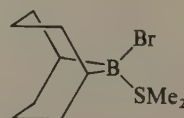
C₁₀H₂₀BBrS

B-00694

9-Bromo-9-borabicyclo[3.3.1]nonane dimethyl sulfide

Bromo-1,5-cyclooctanediyl[thiobis[methane]]boron, 10Cl. 9-Bromo-9-borabicyclo[3.3.1]nonane compd. with thiobis[methane](1:1). B-Bromo-9-BBN-dimethyl sulfide

[70160-59-7]



M 263.042

Cryst., moisture sensitive. Mp 128–9°.

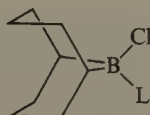
Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2422 (synth, pmr, nmr)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **168**, 281 (*synth*, *pmr*, *nmr*)

C₁₀H₂₀BClS

B-00695

9-Chloro-9-borabicyclo[3.3.1]nonane dimethyl sulfide
Chloro-1,5-cyclooctanediyl[thiobis[methane]]boron, 10Cl. 9-Chloro-9-borabicyclo[3.3.1]nonane compd. with thiobis[methane](1:1). B-Chloro-9-BBN-dimethyl sulfide
[70160-58-6]

L = Me₂S

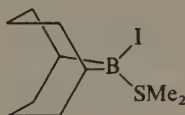
M 218.591

Cryst. (hexane); moisture- and air-sensitive. Mp 104-5°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2422 (*synth*, *nmr*)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **168**, 281 (*synth*, *nmr*)C₁₀H₂₀BIS

B-00696

9-Iodo-9-borabicyclo[3.3.1]nonane dimethyl sulfide
1,5-Cyclooctanediylido[thiobis[methane]]boron, 10Cl. 9-Iodo-9-borabicyclo[3.3.1]nonane, compd. with thiobis[methane]. B-Iodo-9-BBN dimethyl sulfide. B-Iodo-9-BBN-methyl sulfide
[70160-56-4]



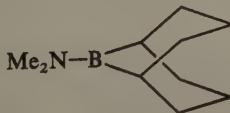
M 310.043

Cryst. (hexane), sensitive to moisture. Mp 133-4°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2422 (*nmr*)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **168**, 281 (*synth*, *nmr*)C₁₀H₂₀BN

B-00697

9-Dimethylamino-9-borabicyclo[3.3.1]nonane
N,N-Dimethyl-9-borabicyclo[3.3.1]nonan-9-amine, 10Cl. B-(N,N-Dimethylamino)-9-BBN
[63366-67-6]

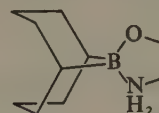


M 165.085

Air- and moisture-sensitive oil. Sol. cyclopentane, CHCl₃, CCl₄. Bp₂ 88°.Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1977, **132**, 9 (*synth*, *nmr*)Nelsen, S.F. *et al*, *J. Org. Chem.*, 1980, **45**, 2116 (*pe*, *ir*, *nmr*, *synth*)C₁₀H₂₀BNO

B-00698

9-(2-Aminoethoxy)-9-borabicyclo[3.3.1]nonane
(2-Aminoethanolato-N,O)(1,5-cyclooctanediyl)boron, 10Cl. 2-(9-Borabicyclo[3.3.1]non-9-yloxy)ethanamine, 10Cl. B-Hydroxy-9-BBN ethanolamine ester
[62059-31-8]



M 181.084

White solid, stable in air. Insol. pentane. Mp 202-203.5°.

Kramer, G.W. *et al*, *J. Org. Chem.*, 1977, **42**, 2292 (*synth*, *pmr*, *nmr*)Brown, H.C. *et al*, *J. Org. Chem.*, 1977, **42**, 4169 (*synth*)C₁₀H₂₀B₂O

B-00699

7-(Borylmethyl)-3-methoxy-3-borabicyclo[3.3.1]nonane, 10Cl
7-(Borylmethyl)-3-methoxy-3-BBN. 7-(Borylmethyl)-3-MBBN
[66352-26-9]

As 3-Borabicyclo[3.3.1]nonane, B-00544 with

X = OMe, R = -CH₂BH₂

M 177.887

Prepd. *in situ* by hydroboration of 3-Methoxy-7-methylene-3-borabicyclo[3.3.1]nonane, B-00678.

Intermed. in the synth. of 1-boraadamantane. Air- and moisture-sensitive.

Mikhailov, B.M. *et al*, *CA*, 1975, **88**, 190937y.Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1978, **243**, 929.C₁₀H₂₁B

B-00700

2-Butenyldipropylborane, 10Cl
Crotyldipropylborane
[67682-91-1]

(H₃CCH₂CH₂)₂BCH₂CH=CHCH₃

M 152.086

Undergoes ready allyl rearr. causing equilibration of (E) and (Z)-isomers. Used in synth. of 2-alkoxy-1,4-pentadienes. Colourless liq.; air- and moisture-sensitive. Sol. nonhydroxylic solvs. Bp₇ 51-2°. n_D²⁰ 1.4317.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1385 (*synth*, *nmr*)Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth*, *nmr*)Bubnov, Yu.N. *et al*, *Synthesis*, 1980, 902 (*props*)C₁₀H₂₁B

B-00701

Diethyl(1-ethyl-2-butenyl)borane, 10Cl, 9Cl
1-Ethyl-2-butenyldiethylborane
[76284-46-3]

H₃CCH=CHCH(BEt₂)CH₂CH₃

M 152.086

Prepd. *in situ*. Synthetic intermed. Air-sensitive. Sol.THF. Should be susceptible to ready isomerisation *via* allyl rearrangement.Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)

Yamaguchi, M. *et al*, *Chem. Lett.*, 1980, 993 (*use*)**C₁₀H₂₁B****B-00702**

(2-Methyl-2-propenyl)dipropylborane, 10Cl
 Dipropyl(2-methyl-2-propenyl)borane.
 Methallyldipropylborane
 [67570-19-8]



M 152.086

Prepd. by exchange reaction between (C₃H₇)₂BOC₆H₁₃
 and [H₂C=C(CH₃)CH₂]₃B. Synthetic intermed. Air-
 and moisture-sensitive liq. Sol. THF. Bp₉ 58-9°. *n*_D²⁰
 1.4315.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1392
 (*synth*)

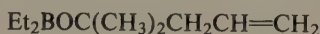
Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113,
 131 (*synth, use*)

Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.),
 1979, **3**, 695 (*rev*)

Bubnov, Y.N. *et al*, *Synthesis*, 1980, 902 (*use*)

C₁₀H₂₁BO**B-00703**

Diethyl(1,1-dimethyl-3-buten-1-yloxy)borane
 Diethylborinic acid 1,1-dimethyl-3-butenyl ester, 10Cl, 9Cl
 [55951-89-8]



M 168.085

Prod. of reaction of allyldiethylborane with Me₂CO.
 Intermed. in prepn. of corresponding alcohol, which is
 obt. upon hydrolysis. Air- and moisture-sensitive liq.
 Sol. nonhydroxylic solvs. Bp₃₀ 77-8°. *n*_D^{23.5} 1.4193.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
 1975, 483; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **24**, 416
 (*synth*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
 1978, 1892; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1663
 (*synth, ir, pmr*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 131
 (*use*)

C₁₀H₂₁BO**B-00704**

Diethyl(1-hexen-4-yloxy)borane
 Diethylborinic acid 1-ethyl-3-butenyl ester, 10Cl, 9Cl
 [55951-88-7]



M 168.085

Prod. of reaction of allyldiethylborane with propanal.
 Intermed. in prepn. of corresponding alcohol, which is
 obt. upon hydrolysis. Air- and moisture-sensitive liq.
 Sol. nonhydroxylic solvs. Bp₂₀ 68-70°. *n*_D^{23.5} 1.4165.

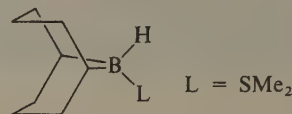
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
 1975, 483; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **24**, 416
 (*synth*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
 1978, 1892; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1663
 (*synth, ir, pmr*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 131
 (*use*)

C₁₀H₂₁BS**B-00705**

9-Borabicyclo[3.3.1]nonane dimethyl sulfide
 1,5-Cyclooctanediylhydro[thiobis[methane]]boron, 10Cl.
 9-Borabicyclo[3.3.1]nonane, compd. with thiobis[meth-
 ane](1:1). 9-BBN dimethyl sulfide
 [64045-91-6]



M 184.146

Useful monofunctional hydroborating agent; weakly
 complexed.

Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 3090 (*synth, nmr*)
 Soderquist, J.A. *et al*, *J. Org. Chem.*, 1981, **46**, 4599 (*use*)

C₁₀H₂₂BBr**B-00706**

Bromodipentylborane, 10Cl, 9Cl
 Dipentylbromoborane
 [13317-62-9]



M 232.998

Precursor for synth. of unsymmetrical trialkylboranes.
 Air- and moisture-sensitive colourless liq. Bp_{0.9} 58°.

McCusker, P.A. *et al*, *J. Inorg. Nucl. Chem.*, 1966, **28**, 2261
 (*synth*)

Günter, S. *et al*, *Chem. Ber.*, 1967, **100**, 2899.

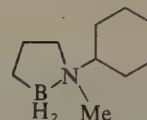
Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 531, 532
 (*synth, use*)

Pelter, A. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 2087
 (*synth*)

Maddocks, P.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1981, 653
 (*use*)

C₁₀H₂₂BN**B-00707**

[3-(Cyclohexylmethylamino)propyl]borane
 [3-(Cyclohexylmethylamino)propyl]-C,N]dihydrobo-
 ron, 10Cl. N-Methyl-N-cyclohexyl-1,2-azaborolidine
 [78207-46-2]

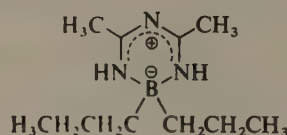


M 167.101

Baboulène, M. *et al*, *Bull. Soc. Chim. Fr., Part II*, 1980, 565
 (*synth, ir, nmr*)

C₁₀H₂₂BN₃**B-00708**

[N-(1-Iminoethyl)ethanimidamidato-N',N'']dipropylboron,
 10Cl, 9Cl
 [34629-68-0]



M 195.114

Dorokhov, V.A. *et al*, *Zh. Obshch. Khim.*, 1971, **41**, 2702.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci.*
Khim., 1971, **199**, 1328.

Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1974, **44**, 1888.

Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1312; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1140 (ms)
 Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1981, 258, 351 (synth)

C₁₀H₂₃B**B-00709****Bis(3-methyl-2-butyl)borane**

Bis(1,2-dimethylpropyl)borane, 10Cl, 9Cl.

Disiamylborane

[6838-83-1]



M 154.102

Usually exists as a bridged dimer. Selective reducing agent for carbonyl functions, unhindered alcohols and alkynes. Mp 35-40°. Air- and moisture-sensitive.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1961, 83, 1241 (synth, use)

Holan, G. *et al*, *Tetrahedron Lett.*, 1973, 673 (use)

Brown, H.C. *et al*, *J. Org. Chem.*, 1974, 39, 1631 (use)

Negishi, E. *et al*, *Tetrahedron Lett.*, 1977, 411 (use)

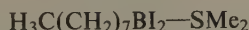
Hubbard, J.C. *et al*, *J. Organomet. Chem.*, 1978, 156, 81 (synth, nmr, use)

Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, 8, 41 (use)

C₁₀H₂₃BI₂S**B-00710****Diiodooctylborane dimethyl sulfide**

Diiodooctyl[thiobis(methane)]boron, 10Cl. *Diiodooctylborane compd. with thiobis(methane)(1:1)*

[72206-01-0]



M 439.971

Air- and moisture-sensitive.

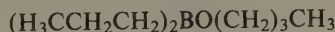
Brown, H.C. *et al*, *J. Org. Chem.*, 1980, 45, 384 (synth)

C₁₀H₂₃BO**B-00711****Butoxydipropylborane**

Dipropylboronic acid butyl ester, 10Cl.

Butyloxydipropylborane

[3578-40-3]



M 170.101

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs.

Bp₇ 65-8°, Bp_{0.8} 34°. *n*_D²⁰ 1.4132.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1961, 136, 828 (synth)

Ger. Pat., 1 097 446, (1961); *CA*, 56, 1478a

Laurent, J.P., *Bull. Soc. Chim. Fr.*, 1963, 558.

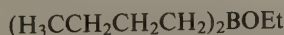
Nikitina, A.N. *et al*, *CA*, 1964, 61, 12803b (uv)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1965, 1487.

C₁₀H₂₃BO**B-00712****Dibutylethoxyborane**

Dibutylboronic acid ethyl ester, 10Cl, 9Cl, 8Cl

[32429-86-0]



M 170.101

Air- and moisture-sensitive liq. Bp₂₀ 86-8°.

Laurent, J.P. *et al*, *Bull. Soc. Chim. Fr.*, 1963, 558 (synth)

Davies, A.G. *et al*, *J. Chem. Soc. (B)*, 1971, 698.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,

1977, 2633; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 26, 2437 (props)

Bagdasaryan, G.B. *et al*, *Arm. Khim. Zh.*, 1979, 32, 203; *CA*, 92, 6578 (props, synth)

Airiyan, L.Sh. *et al*, *Arm. Khim. Zh.*, 1979, 32, 725; *CA*, 92, 181248e (synth, props)

Pola, M. *et al*, *Collect. Czech. Chem. Commun.*, 1979, 44, 3688 (ir)

C₁₀H₂₃BO**B-00713****Diethyl(hexyloxy)borane**

Diethylboronic acid hexyl ester, 10Cl

[67682-98-8]



M 170.101

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs.

Bp₃ 45-6°. *n*_D²⁰ 1.4160.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,

1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 27, 1385 (synth)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,

1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 27, 1392.

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, 154, 113.

C₁₀H₂₃BO₂**B-00714****Dibutoxyethylborane**

Ethylboronic acid dibutyl ester, 10Cl. *Ethaneboronic acid dibutyl ester*, 8Cl. *Ethyl dibutoxyborane. Dibutyl ethaneboronate*

[3027-60-9]



M 186.101

Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs. *d*₂₀ 0.822. Bp₁₄ 86-8°. *n*_D²⁰ 1.4060, 1.4140.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1957, 1080 (synth, props)

Gallais, F. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1964, 259, 4262 (props)

Baudet, J. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1967, 264, 1090 (props)

Sterlin, R.N. *et al*, *CA*, 1968, 68, 13025r (props)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,

1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 27, 1385 (synth, props)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, 154, 113 (synth, props)

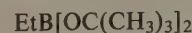
C₁₀H₂₃BO₂**B-00715****Di-tert-butoxyethylborane**

Ethylboronic acid bis(1,1-dimethylethyl) ester, 10Cl.

Ethaneboronic acid di-tert-butyl ester, 8Cl. *Ethylboronic acid di-tert-butyl ester. Di-tert-butyl ethaneboronate.*

Ethylbis-tert-butoxyborane

[7318-83-4]



M 186.101

Air- and moisture-sensitive liq. Sol. THF. Bp₉ 43° (Bp₈ 46-8°). *n*_D²⁰ 1.3968.

Nöth, H. *et al*, *Chem. Ber.*, 1966, 99, 1049 (nmr)

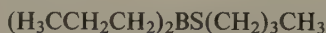
Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, 12, 23 (pmr, synth)

Fenzl, W. *et al*, *Justus Liebigs Ann. Chem.*, 1978, 1030 (synth, pmr, ms)

Biffar, W. *et al*, *Chem. Ber.*, 1980, 113, 333 (nmr)

C₁₀H₂₃BS**(Butylthio)dipropylborane**

Dipropylthioboric acid butyl ester, 10Cl, 9Cl
[2938-91-2]



M 186.162

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs.

Bp_{11.5} 98.5-102°, Bp₃ 70-5°. n_D^{20} 1.4580 (1.4528).

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1960, 1307 (synth)

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1961, 136, 828 (synth, props)

Laurent, J.P., *Bull. Soc. Chim. Fr.*, 1963, 558 (props)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1963, 641 (synth, props)

Bagdasaryan, G.B. *et al*, *Arm. Khim. Zh.*, 1979, 32, 203; *CA*, 92, 6578r (synth, props)

B-00716

Nöth, H. *et al*, *Chem. Ber.*, 1966, 99, 1049 (nmr)

Schmidt, M. *et al*, *Z. Naturforsch., B*, 1968, 23, 1258 (synth)

Nöth, H. *et al*, *Chem. Ber.*, 1969, 102, 161.

Beck, W. *et al*, *Chem. Ber.*, 1972, 105, 2883 (nmr)

Costes, J.P. *et al*, *J. Organomet. Chem.*, 1979, 175, 257 (nmr)

C₁₀H₂₄BN**Di-tert-butyl(dimethylamino)borane**

1,1-Bis(1,1-dimethylethyl)-N,N-dimethylboranamine, 10Cl

[76826-48-7]



M 169.116

Biffar, W. *et al*, *Chem. Ber.*, 1981, 114, 49 (nmr)

Nöth, H. *et al*, *Chem. Ber.*, 1981, 114, 1150 (nmr)

Klusik, H. *et al*, *J. Organomet. Chem.*, 1982, 232, C21.

B-00720

C₁₀H₂₃BS**Diethyl(hexylthio)borane**

Diethylthioboric acid hexyl ester, 10Cl, 9Cl.

Hexylthio(diethyl)borane

[55951-86-5]



M 186.162

Used in synth. of allyldiethylboranes. Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs. Bp₁ 61-2°. n_D^{20} 1.4605.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1975, 483; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 24, 416.

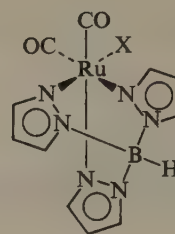
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 27, 1392 (synth, nmr, props)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, 154, 113 (synth, nmr, props)

B-00717

C₁₁H₁₀BBrN₆O₂Ru**Bromodicarbonyl[hydrotris(pyrazolato)borato(1-)]ruthenium, 8Cl**

[33849-21-7]



X = Br

M 450.023

Yellow microcryst. (MeOH). Mp 256°.

Bruce, M.I. *et al*, *J. Organomet. Chem.*, 1971, 31, 269 (synth, pmr, ir)

B-00721

C₁₀H₂₄B^o**Methyltripropylborate(1-), 10Cl, 9Cl**

M 155.110 (ion)

Cu(I) salt: [59598-77-5].

C₁₀H₂₄BCu M 218.656

Formed *in situ* by adding CuI to the Li salt. Synth. intermed. Air-sensitive. Sol. THF. Not fully characterized.

Miyaura, N. *et al*, *Synthesis*, 1976, 618 (props)

Miyaura, N. *et al*, *Tetrahedron Lett.*, 1976, 255; 1977, 173, 3369 (synth, use)

Miyaura, N. *et al*, *Bull. Chem. Soc. Jpn.*, 1977, 50, 2199.

Yamada, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, 52, 275 (synth, props)

B-00718

C₁₁H₁₀BCIN₆O₂Ru**Dicarbonylchloro[hydrotris(pyrazolato)borato(1-)]ruthenium, 8Cl**

[33849-22-8]

As Bromodicarbonyl[hydrotris(pyrazolato)borato(1-)]-ruthenium, B-00721 with

X = Cl

M 405.572

White cryst. (MeOH). Mp 261-2°.

Bruce, M.I. *et al*, *J. Organomet. Chem.*, 1971, 31, 269 (synth, pmr, ir)

B-00722

C₁₁H₁₀BIN₆O₂Ru**Dicarbonyl[hydrotris(pyrazolato)borato(1-)]iodoruthenium, 8Cl**

[33849-20-6]

As Bromodicarbonyl[hydrotris(pyrazolato)borato(1-)]-ruthenium, B-00721 with

X = I

M 497.024

Bright-yellow cryst. (MeOH). Mp 243°.

Bruce, M.I. *et al*, *J. Organomet. Chem.*, 1971, 31, 269 (synth, pmr, ir)

B-00723

C₁₀H₂₄BN**Dibutyl(dimethylamino)borane, 8Cl**

1,1-Dibutyl-N,N-dimethylboranamine, 10Cl, 9Cl

[7289-86-3]



M 169.116

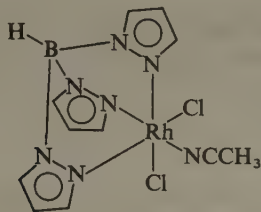
Iodine-coloured liq., air- and moisture-sensitive. Bp₁₀ 78-80°. Reported colour prob. due to impurities.

Ruff, J.K., *J. Org. Chem.*, 1962, 27, 1020 (synth, ir, nmr)

B-00719

C₁₁H₁₃BCl₂N₇Rh**B-00724**

(Acetonitrile)dichloro[hydrotris(1*H*-pyrazolato-*N*¹)bora-
to(1-)-*N*²,*N*²,*N*²']rhodium, 10Cl
(Hydrotrispyrazolylborato)dichloro(acetonitrile)rhodi-
um
[73137-32-3]



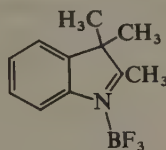
M 427.892

Starting material for hydrotris(1-pyrazolyl)borato-
rhodium complexes. Dull-gold prisms (MeCN). Mp
>360°.

May, S. *et al*, *Inorg. Chem.*, 1980, **19**, 1582 (*synth*, *pmr*)

C₁₁H₁₃BF₃N**B-00725**

Trifluoroborane 2,3,3-trimethyl-3*H*-indole
Trifluoro(2,3,3-trimethyl-3*H*-indole)boron, 10Cl. 2,3,3-
Trimethyl-3*H*-indole compd. with trifluoroborane(1:1)
[69975-70-8]

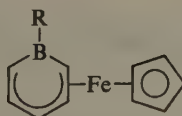


M 227.036

Mushkalo, N.N. *et al*, *Ukr. Khim. Zh. (Russ. Ed.)*, 1979, **45**,
79, 231 (*synth*, *nmr*)

C₁₁H₁₃BFe**B-00726**

(η⁵-2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-methylborata-
benzene]iron, 10Cl
[65777-53-9]



R = Me

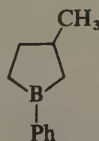
M 211.881

Bright-red cryst. (pentane). Mp 56-7°. Subl. *in vacuo*.

Herberich, G.E. *et al*, *J. Organomet. Chem.*, 1978, **144**, C1
(*synth*, *ms*, *pmr*, *nmr*)

C₁₁H₁₅B**B-00727**

3-Methyl-1-phenylborolane, 10Cl, 9Cl, 8Cl
1-Phenyl-3-methylborolane. 3-Methyl-1-phenylboracy-
clopentane
[33673-18-6]



M 158.050

Air-sensitive liq. d₂₀ 0.908. Bp₂ 61-4°. n_D²⁰ 1.5205.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci.*

Khim., 1960, **133**, 119 (*synth*)

Wrackmeyer, B. *et al*, *J. Organomet. Chem.*, 1976, **108**, C21
(*props*)

Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)

Contreras, R. *et al*, *Z. Naturforsch., B*, 1980, **35**, 1229 (*nmr*)

C₁₁H₁₅B**B-00728**

1-Phenylborinane, 10Cl, 9Cl

1-Phenyl-1-boracyclohexane

[59073-88-0]

As Borinane, B-00327 with

R = Ph

M 158.050

Characterized spectroscopically. Sensitive to air.

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075.

Wrackmeyer, B. *et al*, *J. Organomet. Chem.*, 1976, **108**, C21.

Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*cmr*,
nmr)

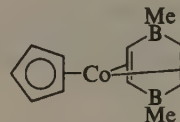
Braeuchle, C. *et al*, *Chem. Phys.*, 1980, **53**, 373 (*props*)

C₁₁H₁₅B₂Co**B-00729**

(η⁵-2,4-Cyclopentadien-1-yl)[(2,3,5,6-η)-1,4-dihydro-1,4-di-
methyl-1,4-diborin]cobalt, 10Cl

Cyclopentadienyl(1,4-dimethyl-1,4-dibora-2,5-cyclo-
hexadiene)cobalt

[75039-09-7]



M 227.793

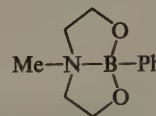
Red cryst. (pentane). Mp 122°. Air stable; thermally
stable to 300°.

Herberich, G.E. *et al*, *J. Organomet. Chem.*, 1980, **192**, 421
(*synth*, *struct*)

C₁₁H₁₆BNO₂**B-00730**

[[2,2'-(Methylimino)bis[ethanolato]](2-)-*N*,*O*,*O'*]phenylbo-
ron, 10Cl

[66035-56-1]



M 205.063

Gerwarth, U.W., *Z. Naturforsch., B*, 1977, **32**, 1408.

Mazeika, I. *et al*, *Zh. Obshch. Khim.*, 1979, **49**, 2528 (*ms*)

C₁₁H₁₆B₂FeO₃S**B-00731**

Tricarbonyl[(1,2,3,4,5-η)-3,4-diethyl-2,5-dihydro-2,5-di-
methyl-1,2,5-thiadiborole]iron, 10Cl

[54688-79-8]

As Tricarbonyl[(1,2,3,4,5-η)-3,4-diethyl-2,5-dihy-
dro-1,2,5-thiadiborole]iron, B-00591 with

R = Me

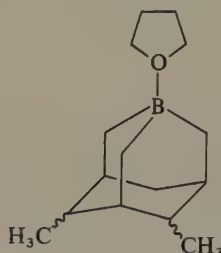
M 305.773

Yellow-orange cryst. Mp 23-5°. Bp_{0.02} 35°.

Siebert, W. *et al*, *J. Organomet. Chem.*, 1977, **131**, 1 (*synth*, *pmr*, *nmr*, *ir*, *ms*)

C₁₁H₁₉B

4,6-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane
4,6-Dimethyl-1-boraadamantane



THF complex

M 162.081

Known only in the form of its complexes.

THF complex: [73207-64-4]. [(2,4-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)](tetrahydrofuran)boron, 10Cl.

C₁₅H₂₇BO M 234.188

Cryst. (2-methylbutane). Mp 53-56.5°.

Py complex: [73207-65-5]. [(2,4-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)](pyridine)boron, 10Cl.

Pyridine compd. with 4,6-dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane (1:1).

C₁₆H₂₄BN M 241.182

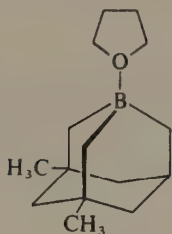
Cryst. (hexane). Mp 90.5-91.5°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2551; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2368 (*synth*, *pmr*)

C₁₁H₁₉B

3,5-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, 10Cl, 9Cl
3,5-Dimethyl-1-boraadamantane
[55967-67-4]

B-00733



THF complex

M 162.081

THF complex: [72890-35-8]. [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)](tetrahydrofuran)boron, 10Cl.

C₁₅H₂₇BO M 234.188

Liq., unstable to air and moisture. Bp₁ 72-4°. n_D²⁰ 1.5087.

Py complex: [55967-68-5]. [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)](pyridine)boron, 10Cl.

Pyridine compd. with 3,5-dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, 9Cl, 8Cl.

C₁₆H₂₄BN M 241.182

Cryst. (hexane). Mp 54-6°. Bp₁ 162-4°.

Et₂O complex: [55967-74-3]. [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)][1,1'-oxybis(ethane)]boron, 10Cl. 3,5-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane compd. with 1,1'-oxybis(ethane) (1:1), 9Cl.

C₁₅H₂₉BO M 236.204

Colourless liq. d₄²⁰ 0.92. Fairly stable but partially dissociates at r.t.

Mikhailov, B.M., *Pure Appl. Chem.*, 1974, **39**, 505 (*synth*, *nmr*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2302; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2148 (*synth*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2724; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2533 (*synth*, *cmr*, *pmr*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1980, **201**, 81.

C₁₁H₁₉B

4,4-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, 10Cl
4,4-Dimethyl-1-boraadamantane

[72646-18-5]

M 162.081

Liq., sensitive to air. Bp₁ 73-8°. More stable as complexes with Py and Et₂O.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2340; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 28, 2161 (*synth*, *nmr*)

C₁₁H₁₉B

9-(2-Propenyl)-9-borabicyclo[3.3.1]nonane, 10Cl, 9Cl
B-Allyl-9-borabicyclo[3.3.1]nonane. B-Allyl-9-BBN
[53317-08-1]

B-00735

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with

R = —CH₂CH=CH₂

M 162.081

Fluxional molecule. Synthetic intermed. Clear liq., sensitive to air and moisture. Bp_{0.05} 41.5-42°.

Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1.

Kramer, G.W. *et al*, *J. Org. Chem.*, 1977, **42**, 2292 (*nmr*)

Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1977, **132**, 9 (*synth*, *pmr*, *nmr*)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1.

Yamamoto, Y. *et al*, *Tetrahedron Lett.*, 1980, **21**, 3599 (*nmr*)

C₁₁H₁₉BO₂

3-Methoxy-7-(methoxymethyl)-3-borabicyclo[3.3.1]non-6-ene, 10Cl

B-00736

[69464-55-7]

As 7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]non-6-ene, B-00670 with

R = OMe, R' = CH₂OMe

M 194.080

Air- and moisture-sensitive liq. Bp₁ 67-8°. n_D^{18.5} 1.4860.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1978, **243**, 929 (*synth*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2541, 2544; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2358, 2361 (*synth*, *ir*, *pmr*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1881; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1355 (*nmr*, *pmr*)

C₁₁H₂₁B

9-Isopropyl-9-borabicyclo[3.3.1]nonane
9-(1-Methylethyl)-9-borabicyclo[3.3.1]nonane, 10Cl, 9Cl.
B-(2-Propyl)-9-BBN

B-00737

[51475-51-5]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with



M 164.097

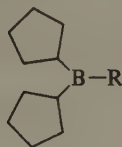
Synthetic intermed. Oil, sensitive to air. Bp_{0.25} 35.5-37.0°, Bp_{0.05} 28-30°.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 311.Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1 (*synth*, *pmr*, *nmr*)Brown, H.C. *et al*, *Tetrahedron Lett.*, 1977, 3007.Katz, J.J. *et al*, *Bull. Soc. Chim. Fr.*, 1977, 683.C₁₁H₂₁BO

B-00738

Dicyclopentylmethoxyborane

Dicyclopentylborinic acid methyl ester, 10Cl, 9Cl. Methyl dicyclopentylborinate

[36140-24-6]



R = OMe

M 180.096

Used in *synth.* of dicyclopentyl ketone *via* reaction with dichloromethyl methyl ether. Air- and moisture-sensitive liq. Sol. THF. Bp₃ 90-2°, Bp₂ 82-4°. n_D²⁰ 1.4705.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2112 (*synth*)Carlson, B.A. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6876 (*use*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1785 (*synth*, *props*)Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2417 (*synth*)C₁₁H₂₁BO

B-00739

7-(Methoxymethyl)-3-methyl-3-borabicyclo[3.3.1]nonane, 10Cl

[[5-(Methoxymethyl)-1,3-cyclohexanediyl]bis(methylene)-C,C',O]methylboron, 10Cl

[76062-79-8]

As 3-Borabicyclo[3.3.1]nonane, B-00544 with



M 180.096

endo-form [76070-07-0]Intramolecularly coordinated. Air-sensitive. Sol. CHCl₃, CH₂Cl₂. Bp₂ 62-3°.Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (*cmr*, *synth*)Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (*nmr*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312 (*synth*)C₁₁H₂₁BO₂

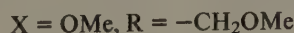
B-00740

3-Methoxy-7-(methoxymethyl)-3-borabicyclo[3.3.1]nonane, 10Cl

7-(Methoxymethyl)-3-methoxy-3-borabicyclo[3.3.1]nonane. 7-(Methoxymethyl)-3-MBBN

[74789-87-0]

As 3-Borabicyclo[3.3.1]nonane, B-00544 with



M 196.096

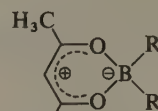
Air- and moisture-sensitive. Sol. CHCl₃. Bp₃ 85-6°.Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (*nmr*, *synth*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1106; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 813 (*synth*, *pmr*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (*nmr*, *synth*)Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312.C₁₁H₂₁BO₂

B-00741

(2,4-Pentanedionato-O,O')dipropylboron, 10Cl

Dipropylboryl acetylacetonate

[42562-18-5]

R = CH₂CH₂CH₃

M 196.096

Dorokhov, V.A. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 1115 (*synth*)Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 862.Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 80; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 70 (*ms*)Costes, J.P. *et al*, *Synth. React. Inorg. Metal-Org. Chem.*, 1981, **11**, 383.C₁₁H₂₁BS

B-00742

Dicyclopentyl(methylthio)borane

Dicyclopentylthioborinic acid methyl ester, 10Cl, 9Cl

[57476-23-0]

As Dicyclopentylmethoxyborane, B-00738 with



M 196.157

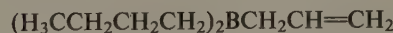
Used in *synth.* of dicyclopentylbromoborane. Air- and moisture-sensitive liq. Sol. THF. Bp_{1.3} 82-4°. m/e 127.Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 531 (*synth*, *use*)Pelter, A. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 2087 (*synth*, *props*)C₁₁H₂₃B

B-00743

Dibutyl-2-propenylborane, 10Cl, 9Cl

Allyldibutylborane

[51851-76-4]



M 166.113

Colourless mobile liq., stable under N₂ but readily hydrolysed and sensitive to air. Sol. non-hydroxylic solvs. Bp₇₅₆ 114-5°. n_D²⁰ 1.4152, n_D²² 1.4381.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1975, 493, 979, 1586, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 416, 897, 1385, 1392 (*synth*, *props*)Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113, 131 (*synth*, *use*)

C₁₁H₂₃B

B-00744

(3-Methyl-2-butenyl)dipropylborane, 10Cl
 Dipropyl(3-methyl-2-butenyl)borane.
 Prenyldipropylborane
 [67741-08-6]



M 166.113

Prepd. from 1-Bromo-3-methyl-2-butene, magnesium and phenoxydipropylborane. Synthetic intermed. Air- and moisture-sensitive liq. Sol. Et₂O. Bp₁ 37-8°. *n*_D²⁰ 1.4370.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586, 1892; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1392, 1663 (*synth*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth, pmr*)

Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, 3, 695 (*rev*)

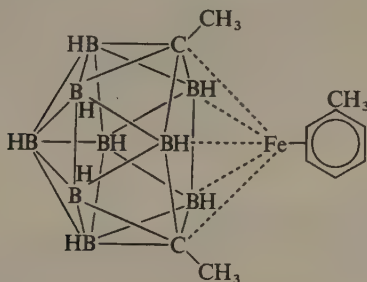
Bubnov, Y.N. *et al*, *Synthesis*, 1980, 904 (*use*)

Mikhailov, B.M. *et al*, *Synthesis*, 1980, 902 (*use*)

C₁₁H₂₃B₉Fe

B-00745

[(1,2,3,4,5,6-η)-Methylbenzene]-(7,8,9,10,11-η)-1,2,3,4,5,6,8,10,11-nonahydro-7,9-dimethyl-7,9-dicarbaundecaborato(2-)]iron
 [closo-1-(η⁶-Toluene)-2,4-dimethyl-1,2,4-FeC₂B₉H₉]
 [80464-85-3]



M 308.440

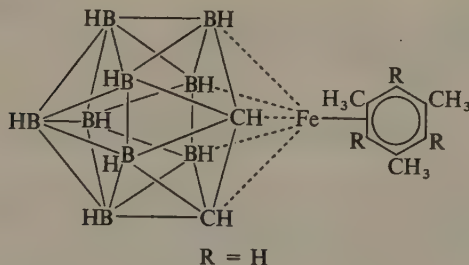
Red cryst. Mp 198°.

Garcia, M.P. *et al*, *J. Chem. Soc., Chem. Commun.*, 1981, 871 (*synth, struct, ir, nmr, cmr*)

C₁₁H₂₃B₉Fe

B-00746

[(1,2,3,4,5,6-η)-1,3,5-Trimethylbenzene]-(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron
 3,1,2-(η⁶-Mesitylene)-FeC₂B₉H₁₁
 [82733-98-0]



M 308.440

Orange cryst. (CH₂Cl₂/hexane). Mp 249-51° dec.

Hanusa, T. *et al*, *Polyhedron*, 1982, **1**, 77 (*synth, struct, pmr, ir, nmr*)

C₁₁H₂₄BN

B-00747

9-Borabicyclo[3.3.1]nonane isopropylamine
 1,5-Cyclooctanediylhydro(2-propanamine)boron, 10Cl.
 2-Propanamine, compd. with 9-borabicyclo[3.3.1]nonane(1:1). 9-BBN isopropylamine complex
 [70338-03-3]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with



M 181.127

Completely associated in cyclohexane soln.

Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1979, **98**, 117.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 1748 (*cmr, props*)

C₁₁H₂₄BN

B-00748

9-Borabicyclo[3.3.1]nonane propylamine
 1,5-Cyclooctanediylhydro(1-propanamine)boron, 10Cl.
 1-Propanamine, compd. with 9-borabicyclo[3.3.1]nonane(1:1). 9-BBN propylamine complex
 [70338-02-2]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with



M 181.127

Completely associated in cyclohexane soln.

Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1979, **98**, 117.

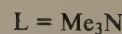
Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 1748 (*cmr, props*)

C₁₁H₂₄BN

B-00749

9-Borabicyclo[3.3.1]nonane trimethylamine
 1,5-Cyclooctanediyl(N,N-dimethylmethanamine)hydroboron. N,N-Dimethylmethanamine, compd. with 9-borabicyclo[3.3.1]nonane. 9-BBN trimethylamine complex
 [64070-34-4]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with



M 181.127

Colourless cryst. (pentane); unstable in air. Mp 74-5°.

Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 3090 (*nmr*)

C₁₁H₂₅BN^o

B-00750

(2,2-Dimethyl-1-propaniminato)triethylborate(1-), 10Cl



M 182.135 (ion)

Li salt: [61867-25-2].

C₁₁H₂₅BLiN M 189.076

No phys. props. reported.

Na salt: [61867-22-9].

C₁₁H₂₅BNNa M 205.125

Solid. Mp 82°.

Hoberg, H. *et al*, *J. Organomet. Chem.*, 1976, **118**, C3, C6 (*props, ir*)

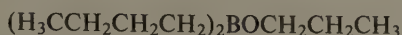
C₁₁H₂₅BO

B-00751

Dibutylpropoxyborane

Dibutylborinic acid propyl ester, 10Cl

[63787-76-8]



M 184.128

Air- and moisture-sensitive liq.

Bagdasaryan, G.B. *et al*, *Arm. Khim. Zh.*, 1977, **30**, 399; *CA*, **87**, 135509q.Bagdasaryan, G.B. *et al*, *Arm. Khim. Zh.*, 1979, **32**, 192; *CA*, **92**, 6577q.Airiyani, L.Sh. *et al*, *Arm. Khim. Zh.*, 1979, **32**, 725; *CA*, **92**, 181248e (*synth, props*)C₁₁H₂₆BN

(3-Aminopropyl)dibutylborane

(3-Aminopropyl-C,N)dibutylboron, 10Cl

[50589-33-8]

As (3-Aminopropyl)dipropylborane, B-00633 with



M 183.143

Dorokhov, V.A. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 1955 (*synth*)Bochkareva, M.N. *et al*, *Zh. Obshch. Khim.*, 1975, **45**, 780.Gal'chenko, G.L. *et al*, *Tr. Khim. Khim. Tekhnol.*, 1975, **17**, *CA*, **86**, 9289j.Bureiko, S.F. *et al*, *Kinet. Katal.*, 1979, **20**, 1414; *CA*, **92**, 146003z.Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2226; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2048 (*ms*)

B-00752

C₁₁H₂₆BN

(3-Dimethylaminopropyl)dipropylborane

[3-(Dimethylamino)propyl-C,N]dipropylboron, 10Cl

[72910-22-6]

As (3-Dimethylaminopropyl)borane, B-00342 with



M 183.143

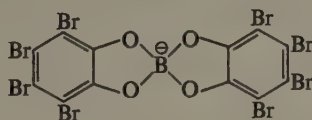
Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2226; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2048 (*ms*)

B-00753

C₁₂BBr₈O₄[⊖]

B-00754

Bis[3,4,5,6-tetrabromo-1,2-benzenediolato(2-)-O,O']borate(1-), 10Cl



M 858.172 (ion)

Tetraethylammonium salt: [74222-94-9].

C₂₀H₂₀BBr₈NO₄ M 988.424

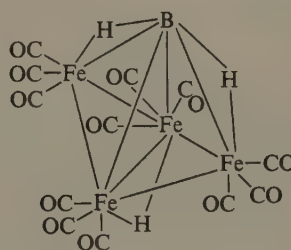
Flame retardant for urethane polymers, epoxy resins and polyesters.

Eur. Pat., 5 497, (1979); *CA*, **93**, 46174h (*use, synth*)*Austrian Pat.*, 357 336, (1980); *CA*, **93**, 151192k (*use*)*Austrian Pat.*, 358 063, (1980); *CA*, **94**, 103330c (*use*)C₁₂H₃BF₄O₁₂

B-00755

[(μ₄-(Boryl-B:B:H:H'))dodecacarbonyl-μ-hydrotetraitron

[80572-82-3]



M 573.347

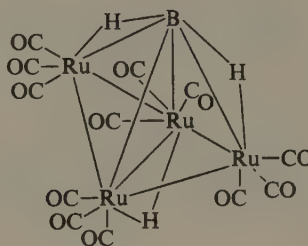
Air-sensitive dark-brown cryst.

Wong, K.W. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 1111 (*synth, pmr, nmr*)Fehlner, T.P. *et al*, *Organometallics*, 1983, **2**, 825 (*synth, struct*)C₁₂H₃BO₁₂Ru₄

B-00756

[μ₄-(Boryl-B:B:H:H'))dodecacarbonyl-μ-hydrotetraruthenium, 10Cl

[63374-84-5]



M 754.239

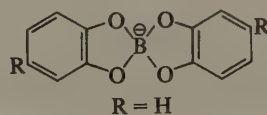
Air-sensitive yellow solid.

Eady, C.R. *et al*, *J. Chem. Soc., Dalton Trans.*, 1977, 477 (*synth, ms, ir, pmr*)C₁₂H₈BO₄[⊖]

B-00757

Bis[1,2-benzenediolato(2-)-O,O']borate(1-), 10Cl, 9Cl

Bis[pyrocatecholato(2-)]borate(1-), 8Cl



R = H

M 227.003 (ion)

N,N'-Bis(2-methylphenyl)guanidine salt: [16971-82-7].

Hydrogenbis[1,2-benzenediolato(2-)-O,O']borate(1-) compd. with N,N'-bis(2-methylphenyl)guanidine(1:1), 10Cl, 9Cl. Hydrogenbis[pyrocatecholato(2-)]borate(1-) compd. with 1,3-di-o-tolylguanidine. Boron catechol di(2-tolyl)guanidine complex.

C₂₇H₂₆BN₃O₄ M 467.330Vulcanising agent for neoprene and butadienestyrene rubber; antioxidant for brominated butyl rubber. Toxic to *Tetrahymena pyriformis*.Epstein, S.S. *et al*, *J. Protozool.*, 1967, **14**, 238 (*tox*)Morozova, N.N. *et al*, *CA*, 1972, **76**, 126551t (*synth*)Timar, J. *et al*, *Rubber Chem. Technol.*, 1979, **52**, 319 (*use*)*Japan. Pat.*, 79 154 446, (1979); *CA*, **92**, 130387s (*use*)

C₁₂H₁₀BBr**B-00758**

Bromodiphenylborane, 10Cl, 9Cl
Bromodiphenylborine
 [5123-17-1]



M 244.925

Synthetic intermed. Viscous liq., air- and moisture-sensitive. Bp_{0.4} 105-10°. Comly. available.

Lappert, M.F. *et al*, *J. Organomet. Chem.*, 1964, **1**, 384 (*synth*)
 Bowie, R.A. *et al*, *J. Chem. Soc. (C)*, 1966, 566.
 Finch, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1967, 1054.
 Finch, A. *et al*, *Trans. Faraday Soc.*, 1967, **63**, 1880.
 Schmidbach, C.D. *et al*, *Inorg. Chem.*, 1969, **8**, 1414.
 Nahm, F.C. *et al*, *J. Organomet. Chem.*, 1972, **35**, 9 (*ir*)
 Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1977, **132**, 29 (*cmr*)

C₁₂H₁₀BCl**B-00759**

Chlorodiphenylborane, 10Cl, 9Cl
Chlorodiphenylborine. Diphenylchloroborane
 [3677-81-4]



M 200.474

Catalyst for alkylbromide reaction with K₂CO₃.
 Colourless fuming liq., sensitive to air and moisture.
 d₂₀ 1.116. Bp_{0.1} 98°. n_D²⁰ 1.6118.

Abel, E.W. *et al*, *J. Chem. Soc.*, 1956, 4697 (*synth, props*)
 Niedenzu, K. *et al*, *Inorg. Chem.*, 1962, **1**, 738 (*synth*)
 Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (*nmr*)
Inorg. Synth., 1971, **10**, 32; 1974, **15**, 149 (*synth*)
 Nahm, F.C. *et al*, *J. Organomet. Chem.*, 1972, **35**, 9 (*ir, nmr*)
 Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*pmr*)
 Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1977, **132**, 29 (*nmr*)

C₁₂H₁₀BCl₂N**B-00760**

Dichloro(diphenylamino)borane, 8Cl
1,1-Dichloro-N,N-diphenylboranamine, 10Cl, 9Cl.
Dichloro(diphenylamino)borine
 [1139-65-7]



M 249.934

White solid readily hydrolysed and oxidized in moist air.
 Mp 78°.

Becher, H.J., *Z. Anorg. Allg. Chem.*, 1957, **289**, 262 (*synth, ir, raman*)
 Becher, H.J. *et al*, *Chem. Ber.*, 1965, **98**, 526 (*synth*)
 Casanova, J. *et al*, *Inorg. Chem.*, 1974, **13**, 2783 (*ir, nmr*)
 Zettler, F. *et al*, *Chem. Ber.*, 1975, **108**, 2269 (*struct*)
Ger. Pat., 2 615 706, (1975); *CA*, **86**, 29473t (*synth*)
 Baudler, M. *et al*, *Z. Anorg. Allg. Chem.*, 1981, **474**, 18 (*synth*)

C₁₂H₁₁BO**B-00761**

Hydroxydiphenylborane
Diphenylborinic acid, 10Cl, 9Cl. *Diphenylboric acid*
 [2622-89-1]



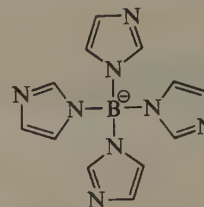
M 182.028

Used as additive in paper chromatog. Mp 57.5°. Bp₂₀ 150-5° (Bp 210-3° as anhydride). Slowly dec. in air.
 May be kept for up to three years as ethanolamine deriv.

Coates, G.E. *et al*, *J. Chem. Soc.*, 1961, 4909 (*synth*)
B.P., 906 145, (1962); *CA*, **58**, 2471 (*synth*)
 Spielvogel, B.F. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 1609 (*nmr*)
 Wrackmeyer, B., *Z. Naturforsch.*, **B**, 1980, **35**, 439 (*nmr*)
 Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 622.

C₁₂H₁₂BN₈[⊖]**B-00762**

Tetrakis(1H-imidazolato-N¹)borate(1-), 10Cl
Tetrakis(1-imidazolyl)borate



M 279.090 (ion)

Na salt: [68146-65-6].

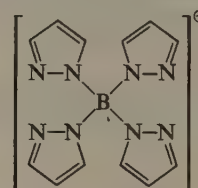
C₁₂H₁₂BN₈Na M 302.080

Used in detn. of deuterium by gravimetry. Yellow-white cryst. (EtOH). Mp 360° dec.

Tetramethylammonium salt: [68146-67-8].

C₁₆H₂₄BN₉ M 353.236Cryst. (EtOH or Me₂CO/C₆H₆). Mp 200° dec.Chao, S. *et al*, *Anal. Chim. Acta*, 1978, **100**, 457 (*synth, use, uv, ir, nmr*)Pacey, G. *et al*, *Talanta*, 1980, **27**, 1013 (*nmr*)Hockman, D.C. *et al*, *Anal. Lett., Part A*, **14**, 719 (*nmr*)**C₁₂H₁₂BN₈[⊖]****B-00763**

Tetrakis(1H-pyrazolato-N²)borate(1-), 10Cl, 9Cl
Tetrakis(1-pyrazolyl)borate



M 279.090 (ion)

Used in formn. of metal complexes.

Free acid: [17967-50-9]. Solid (CH₂Cl₂). Mp 70-1°.

K salt: [14782-58-2].

C₁₂H₁₂BKN₈ M 318.189

Cryst. (EtOH). Sol. DMF, DMSO, spar. sol. H₂O. Mp 253-4°.

Na salt: [14695-83-1].

C₁₂H₁₂BNa₈ M 302.080

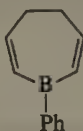
Cryst. (EtOH). Mp 238-9°.

Li salt: [14728-62-2].

C₁₂H₁₂BLi₈ M 286.031Cryst. (H₂O). Mp 394-5°. Sublimes at 300°/2 mm.Trofimenko, S., *J. Am. Chem. Soc.*, 1967, **89**, 3170 (*synth*)*Inorg. Synth.*, 1970, **12**, 103 (*synth*)Trofimenko, S., *Chem. Rev.*, 1972, **72**, 497 (*rev*)Onishi, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 961, 1459, 2540 (*use*)

C₁₂H₁₃B

4,5-Dihydro-1-phenylborepin, 10Cl, 9Cl
[59269-92-0]



M 168.045

Colourless liq., extremely water- and air-sensitive. Bp_{0.002} 52-6°. Forms complexes with transition metals.

Tetracarbonylchromium complex: [67158-11-6]. *Tetracarbonyl*[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin]chromium.

C₁₆H₁₃BCrO₄ M 332.082

Orange-yellow cryst. solid. Sl. air- and water-sensitive. Mp 71°.

Cyclopentadienylcobalt complex: [77070-13-4]. (η⁵-2,4-cyclopentadien-1-yl)[(2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin-B]cobalt.

C₁₇H₁₈BCo M 292.072

Tricarbonyliron complex: see *Tricarbonyl*[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin]iron, B-00945

Carbonylcyclopentadienylmanganese complex: see *Carbonyl*(η⁵-2,4-cyclopentadien-1-yl)[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin]manganese, B-01068

Tetracarbonylmolybdenum complex: [67158-12-7]. *Tetracarbonyl*[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin]molybdenum.

C₁₆H₁₃BMoO₄ M 376.026

Orange-yellow cryst. Sl. air- and water-sensitive. Mp 94-5°.

Ni complex: [74989-65-4]. *Bis*[(2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin-B]nickel.

C₂₄H₂₆B₂Ni M 394.779

Orange cryst., sl. air-sensitive. Mp 95-6°.

Pd complex: [74989-68-7]. *Bis*[(2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin-B]palladium.

C₂₄H₂₆B₂Pd M 442.509

Air-sensitive orange-yellow oil.

Pt complex: [74989-71-2]. *Bis*[(2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin-B]platinum.

C₂₄H₂₆B₂Pt M 531.169

Air-sensitive yellow oil.

Tetracarbonyltungsten complex: [67158-13-8]. *Tetracarbonyl*[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin]tungsten.

C₁₆H₁₃BO₄W M 463.936

Orange-yellow cryst., sl. air- and water-sensitive. Mp 105°.

Herberich, G.E. *et al*, *Chem. Ber.*, 1977, **110**, 760 (*nmr*, *pmr*, *deriv*, *synth*, *ms*)

Koelle, U. *et al*, *J. Organomet. Chem.*, 1978, **152**, 7 (*derivs*, *synth*, *ms*, *props*, *ir*, *nmr*)

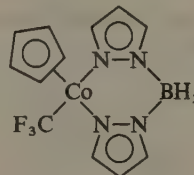
Herberich, G.E. *et al*, *J. Organomet. Chem.*, 1980, **191**, 27 (*derivs*)

Koelle, U., *Inorg. Chim. Acta*, 1981, **47**, 13 (*props*, *deriv*)

B-00764

C₁₂H₁₃BCoF₃N₄

(η⁵-2,4-Cyclopentadien-1-yl)(dihydrobis(1H-pyrazolato-N¹)borato(1-)-N²,N^{2'})(trifluoromethyl)cobalt, 9Cl
[52470-75-4]



M 340.000

Air-stable red cryst. (hexane/Et₂O). Mp 147°. ¹⁹F nmr δ 11.9s (Et₂O).

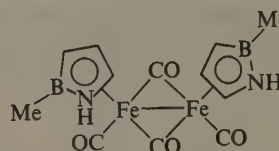
King, R.B. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 1334 (*synth*, *nmr*)

B-00765

C₁₂H₁₄B₂Fe₂N₂O₄

B-00766

Di-μ-carbonyldicarbonylbis[(3,4,5-η)-2,3-dihydro-2-methyl-1H-1,2-azaborol-3-yl-B²,N¹]diiron, 10Cl
[78534-54-0]



M 383.568

Dark-red cryst. (toluene). Mp 140° dec. Bp_{0.01} 80° subl.

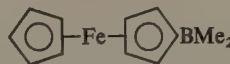
Schulze, J. *et al*, *Chem. Ber.*, 1981, **114**, 1297 (*synth*, *ir*, *ms*, *pmr*, *nmr*)

C₁₂H₁₅BF_e

B-00767

Dimethylborylferrocene

Ferrocenyldimethylboron, 10Cl. (*Dimethylboryl*)ferrocene. *Ferrocenyldimethylborane*



M 225.908

Py complex: [61649-81-8].

C₁₇H₂₀BF_eN M 305.009

Solid. Mp 113-5°.

Renk, T. *et al*, *J. Organomet. Chem.*, 1976, **120**, 1 (*synth*)

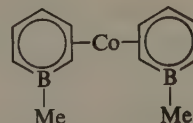
C₁₂H₁₆B₂Co

B-00768

Bis(1-methylborinato)cobalt

1-Methylboratabenzene cobalt complex, 10Cl, 9Cl.

Bis[(1,2,3,4,5,6-η)-1-methylboratabenzene]cobalt
[36534-27-7]



M 240.812

Solid. Mp 98°.

Herberich, G.E. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 1328 (*synth*, *props*)

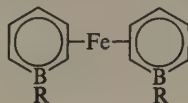
Huttner, G. *et al*, *Chem. Ber.*, 1972, **105**, 3424 (*struct*)

Koelle, U., *J. Organomet. Chem.*, 1978, **152**, 225 (*props*)

Clack, D.W. *et al*, *Inorg. Chem.*, 1979, **18**, 513 (*props*)
Herberich, G.E. *et al*, *J. Organomet. Chem.*, 1980, **197**, 1.

C₁₂H₁₆B₂Fe**B-00769**

Bis[(1,2,3,4,5,6-η)-1-methylboratabenzene]iron, 9Cl
Bis(1-methylborinato)iron
[54853-80-4]



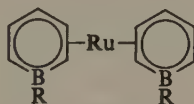
R = Me

M 237.725

Orange air-stable cryst. (pentane). Mp 44-5°, 71.2-71.7°.

Herberich, G. *et al*, *Chem. Ber.*, 1974, **107**, 3780 (*synth*, *pmr*, *ir*, *ms*)Ashe, A.J. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 6865 (*synth*, *mössbauer*, *nmr*, *uv*, *ms*)**C₁₂H₁₆B₂Ru****B-00770**

Bis[(1,2,3,4,5,6-η)-1-methylboratabenzene]ruthenium, 9Cl
Bis(1-methylborinato)ruthenium
[60552-37-6]



R = Me

M 282.948

Air stable, pale-yellow cryst. (pentane). Mp 64-5°. Bp_{0.01} 60° subl.Herberich, G.E. *et al*, *Chem. Ber.*, 1976, **109**, 2382 (*synth*, *pmr*, *nmr*, *ms*)**C₁₂H₁₈BCl****B-00771**

7-(Chloromethyl)-3-(2-propenyl)-3-borabicyclo[3.3.1]non-6-ene, 10Cl, 9Cl
3-Allyl-7-(chloromethyl)-3-borabicyclo[3.3.1]non-6-ene
[43184-99-2]

As 7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]non-6-ene, B-00670 with

R = —CH₂CH=CH₂, R' = CH₂Cl

M 208.537

Air- and moisture-sensitive.

Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 1102, 1108.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2056; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1977, 1927 (*pmr*, *synth*)Mikhailov, B.M. *et al*, *CA*, 1978, **88**, 190937y (*synth*)**C₁₂H₁₉BCIN****B-00772**

Chloro(diisopropylamino)phenylborane, 8Cl
1-Chloro-N,N-bis(1-methylethyl)-1-phenylboranamine, 10Cl, 9Cl
[33441-68-8]

PhBCIN[CH(CH₃)₂]₂

M 223.552

Air- and moisture-sensitive liq. Bp₄ 94°, Bp_{0.1} 64°.Niedenzu, K. *et al*, *Chem. Ber.*, 1963, **96**, 2653 (*synth*)Imbery, D. *et al*, *Org. Magn. Reson.*, 1970, **2**, 271 (*nmr*)Brown, C. *et al*, *J. Organomet. Chem.*, 1978, **149**, C34 (*nmr*)Cragg, R.H. *et al*, *J. Organomet. Chem.*, 1981, **217**, 1; 1982, **232**, 201 (*synth*, *pmr*, *nmr*)**C₁₂H₁₉BCIN****B-00773****Chloro(dipropylamino)phenylborane, 8Cl**

1-Chloro-1-phenyl-N,N-dipropylboranamine, 10Cl, 9Cl
[33441-66-6]

PhBCIN(CH₂CH₂CH₃)₂

M 223.552

Air- and moisture-sensitive.

Brown, C. *et al*, *J. Organomet. Chem.*, 1978, **149**, C34; 1981, **220**, C25 (*nmr*)Imbery, D. *et al*, *Org. Magn. Reson.*, 1979, **2**, 271 (*nmr*)Cragg, R.H. *et al*, *J. Organomet. Chem.*, 1981, **217**, 1.**C₁₂H₂₀BBr₃****B-00774****Bromobis(2-bromo-1-hexenyl)borane, 10Cl**[H₃C(CH₂)₃CBr=CH]₂BBr

M 414.812

Formed by bromoboration of 1-hexyne. Air- and moisture-sensitive.

(E,Z)-form [63011-71-2]

Can undergo acetolysis with retention of configuration.

Blackborow, R.J., *J. Organomet. Chem.*, 1977, **128**, 161 (*synth*)**C₁₂H₂₀BCl₂N****B-00775****Phenyldichloroborane triethylamine**

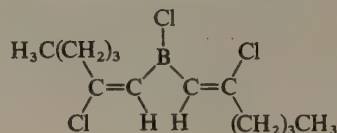
Dichloro(N,N-diethylethanamine)phenylboron, 10Cl. Dichlorophenylborane N,N-diethylethanamine, 9Cl, 8Cl. Dichlorophenylborane triethylamine

[17520-47-7]

Et₃N-BPhCl₂

M 260.013

Solid. Mp 88-90°.

Currell, B.R. *et al*, *J. Organomet. Chem.*, 1967, **8**, 411 (*synth*)Sheikh, S.U., *J. Math. Sci.*, 1974, **1**, 131 (*ms*)Sheikh, S.U., *Bull. Chem. Soc. Jpn.*, 1976, **49**, 2879.Sheikh, S.U., *Pak. J. Sci. Ind. Res.*, 1976, **19**, 48.Sheikh, S.U., *Therm. Anal.*, 1977, 509.Sheikh, S.U., *J. Therm. Anal.*, 1980, **18**, 299.**C₁₂H₂₀BCl₃****B-00776****Chlorobis(2-chloro-1-hexenyl)borane, 10Cl**

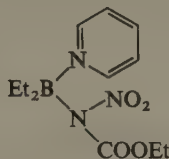
M 281.459

(E,Z)-form [63011-73-4]Prod. of addn. of BCl₃ to 1-hexyne. Dec. on heating.Blackborow, R.J., *J. Organomet. Chem.*, 1977, **128**, 161 (*synth*, *pmr*)

C₁₂H₂₀BN₃O₄

B-00777

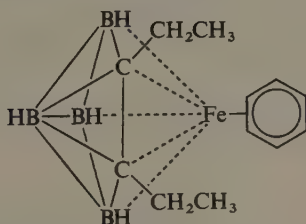
Diethyl(ethyl nitrocarbamato)borane pyridine

Diethyl(ethyl nitrocarbamato)(pyridine)boron, 10Cl
[62261-12-5]

M 281.118

Air- and moisture-sensitive. Insol. hexane, Et₂O. Mp 75-80°.Ioffe, S.L. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2547; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2371 (*ir*, *nmr*, *synth*)Ioffe, S.L. *et al*, *CA*, 1977, **87**, 23357g.C₁₂H₂₀B₄Fe

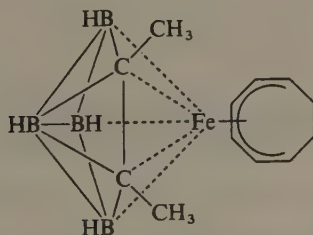
B-00778

(η⁶-Benzene)((2,3,4,5,6-η)-2,2-diethyl-1,4,5,6-tetrahydro-2,3-dicarbahehexaborato(2-))iron
[84582-99-0]

M 263.377

Golden-yellow air-stable cryst. (C₆H₆/hexane). Mp 156-7°.Swisher, R.G. *et al*, *Organometallics*, 1983, **2**, 506 (*synth*, *pmr*, *cmr*, *nmr*, *ms*, *ir*, *struct*)C₁₂H₂₀B₄Fe

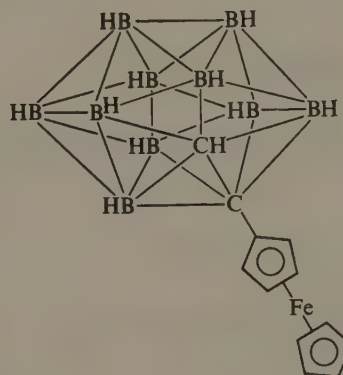
B-00779

[(1,2,3,4,5,6-η)-1,3,5-Cyclooctatriene][(2,3,4,5,6-η)-2,3-dimethyl-1,4,5,6-tetrahydro-2,3-dicarbahehexaborato(2-)]iron
[84583-04-0]

M 263.377

Air-stable red cryst. (CH₂Cl₂/hexane).Maynard, R.B. *et al*, *Organometallics*, 1983, **2**, 500 (*synth*, *struct*, *pmr*, *ir*, *nmr*, *cmr*, *ms*)C₁₂H₂₀B₁₀Fe

B-00780

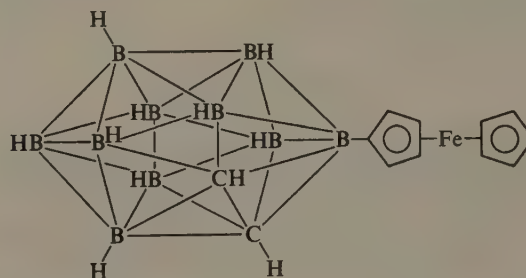
(1,2-Dicarbadoecaboran(12)-1-yl)ferrocene, 9Cl
[11064-94-1]

M 328.237

Cryst. (hexane). Mp 127-127.5°.

Zakharkin, L.I. *et al*, *Zh. Obshch. Khim.*, 1970, **40**, 2246 (*synth*)C₁₂H₂₀B₁₀Fe

B-00781

(1,2-Dicarbadoecaboran(12)-3-yl)ferrocene, 9Cl
(o-Carboran-3-yl)ferrocene
[37298-49-0]

M 328.237

Cryst. (hexane). Mp 154-5°.

Krieg, V. *et al*, *Z. Anorg. Allg. Chem.*, 1969, **44** (*synth*)Zakharkin, L.I. *et al*, *J. Organomet. Chem.*, 1972, **40**, 15 (*synth*, *pmr*, *ir*)C₁₂H₂₁B

B-00782

9-(2-Butenyl)-9-borabicyclo[3.3.1]nonane, 10Cl
B-Crotyl-9-BBN
[61967-28-0]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with

R = -CH₂CH=CHCH₃

M 176.108

Clear liq., air- and moisture-sensitive. Bp_{0.05} 55-6°.

(E)-form [76371-55-6]

Characterised spectroscopically.

(Z)-form [76371-56-7]

Characterised spectroscopically.

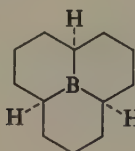
Kramer, G.W. *et al*, *J. Org. Chem.*, 1977, **42**, 2292.Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1977, **132**, 9 (*synth*, *nmr*, *pmr*, *isom*)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1.Yatagai, H. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 4548.Yamamoto, Y. *et al*, *Tetrahedron Lett.*, 1980, **21**, 3599 (*isom*, *nmr*)Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 1969.

C₁₂H₂₁B

Perhydro-9b-boraphenylene

Dodecahydro-9b-boraphenylene, 10Cl, 9Cl

[16664-33-8]



(3α,6α,9α)-form

M 176.108

Sensitive to air.

(3α,6α,9α)-form [1130-59-2]

cis,cis,cis-form

d₄³⁵ 0.92. Mp 31°. Bp₁₀ 113.5°.

(3α,6α,9αβ)-form [2938-53-6]

cis,cis,trans-form

Liq. d₄³⁵ 0.94. Bp₁₀ 115°.Rotermund, G.W. *et al*, *Justus Liebigs Ann. Chem.*, 1965, **686**, 153 (*synth*, *ir*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 1226 (*struct*, *pmr*)Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 805 (*use*)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*use*)C₁₂H₂₁B

Tri-2-butenylborane, 10Cl, 9Cl, 8Cl

Tricrotylborane

[17304-01-7]

(H₃CCH=CHCH₂)₃B

M 176.108

Prepd. from crotylbromide and Et₂O·BF₃ in presence of HgCl₂ and Al. Synthetic intermed. Air- and moisture-sensitive liq. Sol. Et₂O. d₂₀ 0.786. Bp₂ 70-2°. n_D²⁰ 1.4682. As normally prepd. contains a mixt. of *trans* (70%) and *cis* (30%) crotyl groups, which readily interconvert at 150°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1967, 1477 (*synth*)Mikhailov, B.M., *Organomet. Chem. Rev., Sect. A*, 1972, **8**, 1 (*rev*)Stefani, A., *Helv. Chim. Acta*, 1973, **56**, 1192 (*use*)Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1975, **45**, 51 (*props*)Brueser, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **421**, 89 (*ir*)Schroeder, S. *et al*, *Z. Anorg. Allg. Chem.*, 1977, **428**, 225 (*synth*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2551; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2368 (*use*)C₁₂H₂₁B

Tris(2-methyl-2-propenyl)borane, 10Cl, 9Cl

Tris(2-methylallyl)borane, 8Cl. Trimethallylborane

[32784-73-9]

[H₂C=C(CH₃)CH₂]₃B

M 176.108

Synthetic intermed., reacts readily with aldehydes, ketones and activated alkynes. Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs. Undergoes allylic rearrangement readily even at 25°, resulting in pmr signal coalescence at elevated temp.

Mikhailov, B.M., *Organomet. Chem. Rev., Sect. A*, 1972, **8**, 1 (*rev*)Stefani, A. *et al*, *Helv. Chim. Acta*, 1972, **55**, 1110 (*nmr*)Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1974, **44**, 1878 (*nmr*)

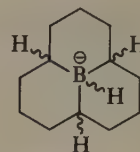
B-00783

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1975, **45**, 59 (*ir*, *raman*, *deriv*)Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1975, **45**, 324 (*props*, *deriv*)Brueser, W. *et al*, *Z. Anorg. Allg. Chem.*, 1976, **421**, 89 (*ir*, *raman*)Schroeder, S. *et al*, *Z. Anorg. Allg. Chem.*, 1977, **428**, 225 (*synth*)C₁₂H₂₂B[⊖]

Dodecahydro-9b-borataphenylene, 10Cl

1,5,9-Cyclododecanetriylhydroborate(1-), 9Cl. Perhydro-9b-boraphenyl hydride. Perhydro-9b-boraphenylene hydride

[67392-85-2]



M 177.116 (ion)

Li salt: [36005-35-3]. Lithium 1,5,9-cyclododecanetriylhydroborate(1-), 9Cl.

C₁₂H₂₂B[⊖]Li M 184.057

Hindered reducing agent. Air- and moisture-sensitive. Na salt: [67276-08-8].

C₁₂H₂₂B[⊖]Na M 200.106

Obt. in soln.

K salt: [67993-15-1].

C₁₂H₂₂B[⊖]K M 216.214

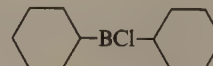
Obt. in soln.

Corey, E.J. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 7319 (*use*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 3343 (*ir*, *nmr*)U.S.P., 4 082 810, (1978); CA, **89**, 109936y (*synth*)Brown, C.A. *et al*, *J. Organomet. Chem.*, 1978, **156**, 111 (*ir*, *nmr*)Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 5004.Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*synth*, *nmr*, *ir*)C₁₂H₂₂BCl

Chlorodicyclohexylborane, 10Cl, 9Cl

Chlorodicyclohexylborine. Dicyclohexylchloroborane

[36140-19-9]



M 212.569

Synthetic intermed. Colourless fuming liq., sensitive to both air and moisture. Sol. non-hydroxylic solvs. Bp₁₂ 82.6°.

Hartmann, H. *et al*, *Z. Anorg. Allg. Chem.*, 1959, **299**, 174 (*synth*)B.P., 873 267, (1961); CA, **57**, 11104d (*synth*)U.S.P., 3 133 961, (1964); CA, **61**, 5690d (*synth*)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 2114 (*props*)Paget, W.E. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 1169 (*synth*)C₁₂H₂₂BCl

Chlorodi-1-hexenylborane, 10Cl, 9Cl

Di-1-hexenylchloroborane

H₃C(CH₂)₃CH=CHBClCH=CH(CH₂)₃CH₃

M 212.569

B-00788

(E,E)-form [41929-38-8]

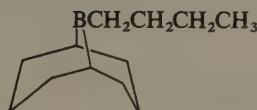
Obt. *in situ* by hydroboration of 1-hexyne with BH₂Cl.
Synth. intermed., e.g. for synth. of dodecadienes. Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs.
Bp_{0.05} 79-81°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1973, **38**, 1617 (*synth*)
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1785 (*synth*)
Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 5652 (*props*)
Yatagai, H. *et al*, *J. Org. Chem.*, 1979, **44**, 2566 (*pmr*)
Yatagai, H. *et al*, *J. Org. Chem.*, 1980, **45**, 1640 (*synth, props*)

C₁₂H₂₃B**9-Butyl-9-borabicyclo[3.3.1]nonane, 9Cl**

B-Butyl-9-BBN

[23532-74-3]



M 178.124

Used in hydroboration reactions. Liq., sensitive to air.
Bp_{0.5} 58-9°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 4304 (*synth*)
Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1 (*synth*)
Yamamoto, Y. *et al*, *Chem. Lett.*, 1975, 1199; *CA*, **84**, 16629 (*nmr*)
Midland, M.M. *et al*, *J. Organomet. Chem.*, 1977, **134**, C17 (*use*)
Yamamoto, Y. *et al*, *Tetrahedron Lett.*, 1980, **21**, 3599 (*cmr*)
Yatagai, H., *J. Org. Chem.*, 1980, **45**, 1640 (*use*)

B-00789

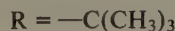
C₁₂H₂₃B**9-tert-Butyl-9-borabicyclo[3.3.1]nonane**

9-(1,1-Dimethylethyl)-9-borabicyclo[3.3.1]nonane, 10Cl.

B-tert-Butyl-9-BBN

[42928-43-8]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with



M 178.124

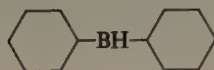
Liq. Bp_{0.2} 27-8°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1973, **38**, 3968.
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 311 (*synth*)
Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1 (*synth*)
Katz, J.-J. *et al*, *Bull. Soc. Chim. Fr.*, 1977, 683.
Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 846 (*nmr*)

B-00790

C₁₂H₂₃B**Dicyclohexylborane**

[1568-65-6]



M 178.124

Selective hydroborating reagent. Cryst. from tetrahydrofuran as the bridged dimer. Air- and moisture-sensitive.

Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1963, **85**, 2072 (*synth*)
Rao, V.V.R. *et al*, *Tetrahedron*, 1978, **34**, 2223 (*use*)
Soderquist, J.A. *et al*, *J. Organomet. Chem.*, 1978, **156**, C12 (*use*)
Zweifel, G. *et al*, *J. Organomet. Chem.*, 1978, **156**, 159 (*synth, use*)

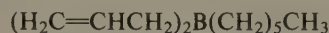
Midland, M.M. *et al*, *J. Org. Chem.*, 1980, **45**, 747 (*use*)
Sonnet, P. *et al*, *J. Chem. Ecol.*, 1980, **6**, 221 (*use*)
Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-83, **8**, 162 (*use*)

B-00791

C₁₂H₂₃B**Hexyldi-2-propenylborane, 10Cl, 9Cl**

Di-2-propenylhexylborane. Diallylhexylborane. Hexyldiallylborane

[56347-97-8]



M 178.124

Prepd. from hexyldialkoxyboranes and allylaluminum sesquibromide. Synthetic intermed. Air- and moisture-sensitive liq. Sol. THF. Bp₂ 58-60°. *n*_D²⁰ 1.4475, ¹¹Bnmr δ 81.2 ppm.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1975, 979; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 897 (*synth*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586, 1892; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1392, 1663 (*synth*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth*)

Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, **3**, 695 (*rev*)

B-00792

C₁₂H₂₃B**9-(1-Methylpropyl)-9-borabicyclo[3.3.1]nonane, 10Cl, 9Cl**

9-sec-Butyl-9-borabicyclo[3.3.1]nonane. B-sec-Butyl-9-BBN

[53317-06-9]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with



M 178.124

Reagent for transfer of *sec*-butyl group. Sensitive to air.
Bp_{0.2} 56-8°.

Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1.Levy, A.B., *J. Org. Chem.*, 1978, **43**, 4684.Levy, A.B., *Tetrahedron Lett.*, 1979, 4021.Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 846 (*nmr*)Slayden, S.W., *J. Org. Chem.*, 1981, **46**, 2311.Whiteley, C.G., *S. Afr. J. Chem.*, 1982, **35**, 9 (*synth*)

B-00793

C₁₂H₂₃B**9-(2-Methylpropyl)-9-borabicyclo[3.3.1]nonane, 10Cl**

9-Isobutyl-9-borabicyclo[3.3.1]nonane. B-Isobutyl-9-BBN

[63942-77-8]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with



M 178.124

Reagent for transfer of an isobutyl group. Sensitive to air.

Midland, M.M. *et al*, *J. Organomet. Chem.*, 1977, **134**, C17; 1978, **156**, 203.

Levy, A.B., *J. Org. Chem.*, 1978, **43**, 4684.Levy, A.B., *Tetrahedron Lett.*, 1979, 4021.Slayden, S.W., *J. Org. Chem.*, 1981, **46**, 2311; 1982, **47**, 2753.

B-00794

C₁₂H₂₃BO₂Si₂**Bis(trimethylsilyloxy)phenylborane**

Phenylboronic acid bis(trimethylsilyl) ester, 10Cl. Benzeneboronic acid bis(trimethylsilyl) ester. Phenylbis(trimethylsilyloxy)borane

[7560-51-2]

B-00795



M 266.294

Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs.
d₂₀ 0.913. Bp₁₃ 114°. n_D²⁰ 1.4560.Gridina, V.F. *et al*, *Zh. Obshch. Khim.*, 1966, **36**, 1283 (*synth*,
props, *ir*)Van den Heuvel, W.J.A. *et al*, *Org. Mass Spectrom.*, 1977, **12**,
724 (*ms*)Wannagat, U. *et al*, *Z. Naturforsch.*, B, 1978, **33**, 475 (*synth*)

B-00796

9-Butyl-9-boratabicyclo[3.3.1]nonane, 10Cl

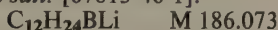
B-butyl-9-BBN hydride

As 9-Boratabicyclo[3.3.1]nonane, B-00546 with



M 179.132 (ion)

Li salt: [67813-46-1].



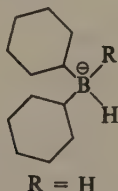
Air- and moisture-sensitive.

Hubbard, J.L. *et al*, *J. Organomet. Chem.*, 1978, **156**, 81 (*nmr*,
synth)Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 467 (*use*)

B-00797

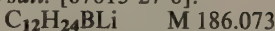
Dicyclohexyldihydroborate(1–), 10Cl

Dicyclohexylborohydride



M 179.132 (ion)

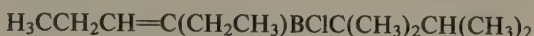
Li salt: [67813-27-8].

Air- and moisture-sensitive. Stable for at least 3
months in dry, air-free THF soln.Hubbard, J.L. *et al*, *J. Organomet. Chem.*, 1978, **156**, 81 (*nmr*,
synth)Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 2712.Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 4541 (*synth*, *ir*,
nmr)

B-00798

Chloro(1-ethyl-1-butenyl)(1,1,2-trimethylpropyl)borane, 10Cl

Chloro(3-hexen-3-yl)(2,3-dimethyl-2-butyl)borane.

Chloro(3-hexen-3-yl)thexylborane. Thexyl(3-hexen-3-
yl)chloroborane

M 214.585

(Z)-form [76173-98-3]

Formed *in situ* by reacn. of hexylchloroborane with 3-
hexene. Synthetic intermed. Prob. oil, sensitive to air
and moisture. Sol. THF with slow reacn.Zweifel, G. *et al*, *J. Org. Chem.*, 1981, **46**, 829 (*synth*)

B-00799

Chloro-1-hexenyl(1,1,2-trimethylpropyl)borane, 10Cl

Chloro(1-hexenyl)(2,3-dimethyl-2-butyl)borane.

Chloro(1-hexenyl)thexylborane. Thexyl(1-hexenyl)-
chloroborane

M 214.585

(E)-form [76173-94-9]

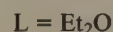
Formed *in situ* by reacn. of hexylchloroborane with 1-
hexyne. Synthetic intermed. Prob. oil. Air- and
moisture-sensitive. Sol. non-hydroxylic solvs. Wrongly
reported in *CA* as the (Z)-form.Zweifel, G. *et al*, *J. Org. Chem.*, 1981, **46**, 829 (*synth*, *use*)

B-00800

9-Chloro-9-borabicyclo[3.3.1]nonane diethyl ether

Chloro-1,5-cyclooctanediyl[1,1'-oxybis[ethane]]boron,
10Cl. B-Chloro-9-BBN-diethyl ether. 9-Chloro-9-borabi-
cyclo[3.3.1]nonane compd. with 1,1'-oxybis[ethane](1:
1)

[70160-57-5]

As 9-Chloro-9-borabicyclo[3.3.1]nonane dimethyl
sulfide, B-00695 with

M 230.584

Air- and moisture-sensitive.

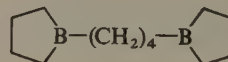
Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 2422.

B-00801

1,1'-(1,4-Butanediyl)bis[borolane], 10Cl, 9Cl

1,1'-Tetramethylenediborolane, 8Cl. 1,1'-Tetramethylen-
ebisborolane. 1,4-Bis(1-boracyclopentyl)butane. 1,4-
Bis(1-borolyl)butane

[15909-61-2]



M 189.942

Air-sensitive liq. Sol. THF. Bp₉ 113-5°, Bp_{0.5} 83-4°.

▷ Spont. inflammable at r.t.

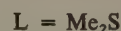
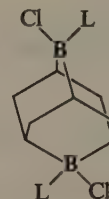
Köster, R., *Angew. Chem.*, 1959, **71**, 520 (*synth*)Zakharkin, L.I. *et al*, *Zh. Obshch. Khim.*, 1962, **32**, 1421
(*synth*)Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci.*
Khim., 1964, **155**, 141.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 2460; 1971, **93**,
3400 (*props*)Nöth, H. *et al*, *Chem. Ber.*, 1974, **107**, 3089 (*nmr*)

B-00802

2,6-Dichloro-2,6-diboraadamantane bis(dimethyl sulfide)

Dichloro[μ-(1,3,5,7-cyclooctanetetrayl-C¹,C⁵:C³,C⁷)-
]bis[thiobis[methane]]diboron, 10Cl

[69961-35-9]



M 324.968

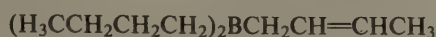
Cryst. (CH₂Cl₂/pentane). Mp 167-8°.Kulkarni, S.U. *et al*, *J. Org. Chem.*, 1979, **44**, 1747 (*synth*, *nmr*)

C₁₂H₂₅B

2-Butenyldibutylborane, 10CI

Dibutylcrotylborane

[67570-20-1]



M 180.140

Fluxional mol. at ambient temps. Used in allylboration of aldehydes, ketones, and esters. Liq., stable up to 110° under N₂ atm., but sensitive to air and moisture. Sol. THF. Bp₂ 58-9°. *n*_D²⁰ 1.4382.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586, 1892; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1385, 1663 (*props*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113, 131 (*synth, props, nmr*)

Bubnov, Y.N. *et al*, *Synthesis*, 1980, 902, 904 (*props*)

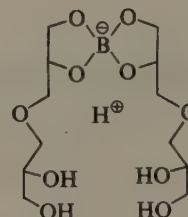
B-00803

Pelter, A. *et al*, *Tetrahedron Lett.*, 1978, 4715 (*synth, use*)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, 3, 695 (*rev*)

C₁₂H₂₅BO₁₀Hydrogen [bis[3,3'-oxybis[1,2-propanediolato]](2-)-O¹,O²]-borate(1-)

[58748-90-6]



B-00807

M 340.134

Not properly characterised; probably a mixt. of several components in equilibrium. 10CI/9CI name appears incorrect. Used in brake fluids for automobiles.

Japan. Pat., 75 157 430, (1975); *CA*, **85**, 23014b

Ger. Pat., 2 831 538, (1980); *CA*, **93**, 134858q (*use*)

U.S.P., 4 192 759, (1980); *CA*, **94**, 86976y (*use*)

C₁₂H₂₅B

1-Butyl-3,6-dimethylborepane, 10CI

[76885-32-0]

As 3,6-Dimethylborepane, B-00551 with



M 180.140

Synthetic intermed. No phys. data recorded.

Yamamoto, Y. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 1072 (*props*)

B-00804

C₁₂H₂₅B

(1-Butyl-1-hexenyl)dimethylborane, 10CI

5-Decenyldimethylborane

As (1-Butyl-1-hexenyl)dichloroborane, B-00691 with



M 180.140

(Z)-form [64285-24-1]

Air-sensitive liq. Sol. THF. Bp₁ 43-5°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 1798 (*synth, pmr, props*)

Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 5652 (*synth*)

Yatagai, H. *et al*, *J. Org. Chem.*, 1979, **44**, 2566 (*pmr*)

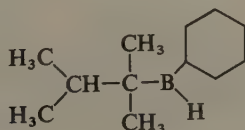
B-00805

C₁₂H₂₅B

Cyclohexyl(1,1,2-trimethylpropyl)borane, 10CI, 9CI

Cyclohexyl(2,3-dimethyl-2-butyl)borane. Cyclohexylthexylborane. Thexylcyclohexylborane

[35331-48-7]



M 180.140

Prepd. *in situ* from thexylborane and cyclohexene.

Synthetic intermed. Precursor to mixed ketones *via* reaction with an alkene and then carbonylation or cyanidation. Air- and moisture-sensitive. Sol. THF.

Negishi, E. *et al*, *Synthesis*, 1974, 77 (*rev*)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2791, 2799 (*synth*)

B-00806

C₁₂H₂₆BN9-Borabicyclo[3.3.1]nonane *tert*-butylamine

1,5-Cyclooctanediylhydro(2-methyl-2-propanamine)-boron, 10CI, 9CI. 2-Methyl-2-propanamine, compd. with 9-borabicyclo[3.3.1]nonane(1:1). 9-BBN *tert*-butylamine complex

[70338-04-4]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with



M 195.154

Completely associated in cyclohexane soln.

Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1978, **98**, 117 (*synth, props*)

B-00809

C₁₂H₂₆BN

9-Borabicyclo[3.3.1]nonane diethylamine

1,5-Cyclooctanediylhydro(N-ethylethanamine)boron, 10CI, 9CI

[70338-05-5]

B-00810

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with



M 195.154

Totally associated in cyclohexane soln.

Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1979, **98**, 117 (*synth, props*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 1748 (*cmr, props*)

C₁₂H₂₇B

B-00811

Bis(1,1,2-trimethylpropyl)borane, 10Cl, 9Cl

Bis(2,3-dimethyl-2-butyl)borane. Dithexylborane

[20622-63-3]



M 182.155

Unusually does not form a bridged dimer. Characterised spectroscopically. Air- and moisture-sensitive. Sol. THF.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1962, **84**, 1478 (*synth*)

Negishi, E. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 4025 (*ir*)

Fussstetter, H. *et al*, *Chem. Ber.*, 1977, **110**, 3172 (*nmr*)

C₁₂H₂₇B

B-00812

Tri-tert-butylborane

Tris(1,1-dimethylethyl)borane, 10Cl, 9Cl. Tris(tert-butyl)borane, 8Cl

[1113-42-4]



M 182.155

Many earlier references to this compound are incorrect, the actual compound obt. being an isomer. Only references after 1977 should be consulted. Air-sensitive liq. Sol. THF. Bp₁₂ 71°.

Radical anion (I-): [81174-43-8]. Formed by reduction with Na/K alloy in diglyme/THF/dicyclohexyl-18-crown-6. Sol. THF/diglyme.

Nöth, H. *et al*, *J. Organomet. Chem.*, 1977, **142**, 281 (*nmr, ir, synth*)

Berndt, A. *et al*, *J. Organomet. Chem.*, 1981, **222**, C25 (*deriv*)

C₁₂H₂₇B

B-00813

Tributylborane, 10Cl, 9Cl

[122-56-5]



M 182.155

Additive used in polym. of alkenes. Reagent for transfer of a butyl group. Liq. Bp₂₀ 108-10°, Bp₉ 90-1°.

▷ED1850000.

Johnson, J.R. *et al*, *J. Am. Chem. Soc.*, 1938, **60**, 115 (*synth*)

Kuimova, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 314 (*nmr*)

Pelter, A. *et al*, *Comprehensive Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, Pergamon, Oxford, 3, 792 (*rev*)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*use*)

C₁₂H₂₇B

B-00814

Tris(1-methylpropyl)borane, 10Cl, 9Cl

Tri-sec-butyl borane, 8Cl. Tri-2-butylborane

[1113-78-6]



M 182.155

Prepd. by hydroboration of 2-butene. Synthetic intermed., generally prepd. *in situ*, for transfer of *sec*-butyl group. Air-sensitive liq. Sol THF, other non-hydroxylic solvs. Bp_{2.5} 60°.

Hennion, G.F. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 5190 (*synth*)
McCusker, P.A. *et al*, *J. Org. Chem.*, 1963, **28**, 2889 (*synth, props*)

Wahab, M.A. *et al*, *Rev. Roum. Phys.*, 1964, **9**, 599; *CA*, **62**, 12614d (*spectra*)

Yamamoto, Y. *et al*, *Chem. Lett.*, 1975, 1199 (*nmr*)

Suzuki, A. *et al*, *Synthesis*, 1976, 687 (*synth, use*)

Reetz, M.T. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, **89**, 46 (*use*)

Takahashi, Y. *et al*, *Chem. Lett.*, 1977, 999 (*synth*)

Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, 3, 695 (*rev*)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*use*)

C₁₂H₂₇B

B-00815

Tris(2-methylpropyl)borane, 10Cl, 9Cl

Triisobutylborane, 8Cl

[1116-39-8]



M 182.155

Prepd. by hydroboration of isobutene. Synthetic intermed.; catalyst. Air-sensitive liq. Sol. Et₂O, THF, other non-hydroxylic solvs. Bp 188.5°, Bp₂₀ 86°.

Krause, E. *et al*, *Chem. Ber.*, 1921, **54**, 2784 (*synth*)

Hurd, D.T. *et al*, *J. Am. Chem. Soc.*, 1948, **70**, 2053 (*synth*)

Nobuyuki, A., *Bull. Chem. Soc. Jpn.*, 1958, **31**, 540 (*synth, use*)

Ashby, E.C., *J. Am. Chem. Soc.*, 1959, **81**, 4791 (*synth*)

Hare, D.G. *et al*, *Chem. Ind. (London)*, 1959, 1519 (*spectra*)

McCusker, P.A. *et al*, *J. Org. Chem.*, 1963, **28**, 2889 (*synth*)

Vanchagova, V.K. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 989.

Kuimova, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 314; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 288 (*nmr*)

C₁₂H₂₇BBr₃N

B-00816

Tribromoborane tributylamine

Tribromo(N,N-dibutyl-1-butanamine)boron, 10Cl.

N,N-Dibutyl-1-butanamine compd. with tribromoborane(1:1). Boron tribromide tributylamine

[54706-18-2]



M 435.874

Sheikh, S.U., *J. Math. Sci.*, 1974, **1**, 131 (*ms*)

Sheikh, S.U., *Pak. J. Sci. Ind. Res.*, 1976, **19**, 48.

Sheikh, S.U., *J. Therm. Anal.*, 1980, **18**, 299 (*synth*)

C₁₂H₂₇BCl₃N

B-00817

Trichloroborane tributylamine

Trichloro(N,N-dibutyl-1-butanamine)boron, 10Cl.

N,N-Dibutyl-1-butanamine compd. with trichloroborane(1:1). Boron trichloride tributylamine

[54706-17-1]



M 302.521

Sheikh, S.U., *J. Math. Sci.*, 1974, **1**, 131 (*ms*)

Sheikh, S.U., *Pak. J. Sci. Ind. Res.*, 1976, **19**, 48; 1980, **23**, 21.

Sheikh, S.U., *J. Therm. Anal.*, 1980, **18**, 299 (*synth*)

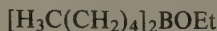
C₁₂H₂₇BO

B-00818

Ethoxydipentylborane

Dipentylborinic acid ethyl ester, 10Cl. Dipentyl(ethoxy)-borane

[65344-93-6]



M 198.155

Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs.

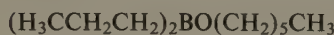
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 2633; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 2437 (synth)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 855; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **28**, 799.C₁₂H₂₇BO

B-00819

(Hexyloxy)dipropylborane

Dipropylborinic acid hexyl ester, 10Cl

[2117-96-6]



M 198.155

Used in synth. of allyl(dialkyl)boranes. Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs. d₂₀ 0.786. Bp₃ 63-4°, Bp₁₂ 100-2°. n_D²⁰ 1.4220.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1962, 628 (synth)Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1965, **35**, 925.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1385, 1392 (synth, props, use)Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (synth, props)C₁₂H₂₇BO₃

B-00820

Tributoxyborane

Boric acid (H₃BO₃) tributyl ester, 10Cl, 9Cl, 8Cl. Tributylborate. Tributyl orthoborate. Butyl borate

[688-74-4]



M 230.154

Used in manuf. of oxalate esters; oxidation catalyst, gelling agent, stabilizer, vulcanizing agent; also used to treat glass for fluorescent lamps. Moisture-sensitive liq. d₄²⁸ 0.847. Bp 229-31°, Bp₈ 105°. n_D²⁸ 1.4089.

▷ED4900000.

Bean, F.R. *et al*, *J. Am. Chem. Soc.*, 1932, **54**, 4415 (synth, props)Scattergood, A. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 2150 (synth, props)Lappert, M.F., *J. Chem. Soc.*, 1953, 667 (synth)Haiden, S.Z. *et al*, *J. Appl. Chem. Biotechnol.*, 1954, **4**, 93 (synth)*Org. Synth., Coll. Vol.*, **2**, 106 (synth, props)Fallon, P.J. *et al*, *Int. J. Mass Spectrom. Ion Phys.*, 1968, **1**, 133 (ms)Maijs, L. *et al*, *CA*, 1973, **79**, 131073e (pmr)Pola, M. *et al*, *Collect. Czech. Chem. Commun.*, 1979, **44**, 3688 (ir, props)Draney, D. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 1041 (nmr)C₁₂H₂₇BO₃

B-00821

Tri-tert-butoxyborane

Boric acid (H₃BO₃) tris(1,1-dimethylethyl)ester, 10Cl, 9Cl. Boric acid (H₃BO₃) tri-tert-butyl ester, 8Cl. Tri-tert-butyl borate. tert-Butyl borate. tert-Butyl orthoborate. Tris(tert-butyloxy)borane

[7397-43-5]



M 230.154

Catalyst for polymn. of olefins and for crosslinking of epoxy resins; heat stabilizer; insect sterlant. Moisture-sensitive liq. Sol. non-hydroxylic solvs. Mp 18-9°. Bp 175°, Bp₇₄ 101°, Bp₁₂ 60°. n_D²⁰ 1.3872.Lappert, M.F., *J. Chem. Soc.*, 1953, 667 (synth)George, P.D. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 1900 (synth, ir, props)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1956, **78**, 3613 (synth, props)O'Brien, K.G., *Aust. J. Chem.*, 1957, **10**, 91 (props)Davis, F.A. *et al*, *J. Org. Chem.*, 1971, **36**, 1300 (nmr)Kronawitter, I. *et al*, *Chem. Ber.*, 1972, **105**, 2423 (synth, nmr, ir)Brown, C.A. *et al*, *J. Org. Chem.*, 1978, **43**, 2731 (synth)Pola, M. *et al*, *Collect. Czech. Chem. Commun.*, 1979, **44**, 3688 (ir, props)C₁₂H₂₇BO₃

B-00822

Tris(2-butoxy)borane

Boric acid (H₃BO₃) tris(1-methylpropyl) ester, 10Cl, 9Cl. Boric acid (H₃BO₃) tri-sec-butyl ester, 8Cl. sec-Butyl borate. Tri-1-methylpropyl borate. Tri-sec-butoxyborane. Tri-2-butyl borate

[22238-17-1]



M 230.154

Catalyst for oxidation of cyclododecatriene. Moisture-sensitive liq. d₄²⁵ 0.826. Bp 195.4-195.8°, Bp₁₀ 92°. n_D²⁵ 1.3960.

▷ED4905000.

Scattergood, A. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 2150 (props)Gerrard, W. *et al*, *J. Chem. Soc.*, 1951, 2545 (props)Aroney, M. *et al*, *J. Chem. Soc.*, 1961, 4140 (struct, props)Davis, F.A. *et al*, *J. Org. Chem.*, 1971, **36**, 1300 (nmr)Kobayashi, Y., *Tetrahedron Lett.*, 1972, 5093 (use)Brown, C.A. *et al*, *J. Org. Chem.*, 1978, **43**, 2731 (props)*Eur. Pat.*, 12 198, (1980); *CA*, **94**, 47554q (use)Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 1041.C₁₂H₂₇BO₃

B-00823

Tris(2-methylpropoxy)borane

Boric acid (H₃BO₃) tris(2-methylpropyl) ester, 10Cl, 9Cl. Boric acid (H₃BO₃) triisobutyl ester, 8Cl. Triisobutoxyborane. Isobutyl borate. Tris(2-methylpropyl)borate. Triisobutyl borate

[13195-76-1]



M 230.154

Insect sterlant; moisture stabilizer for urethane polymer adhesives. Moisture-sensitive liq. d₄²⁵ 0.840. Bp 207-9°, Bp₁₂ 96°. n_D²⁵ 1.4014.

▷ED5250000.

Gerrard, W. *et al*, *J. Chem. Soc.*, 1951, 2545 (props)Lappert, M.F., *J. Chem. Soc.*, 1953, 667 (synth)Aroney, M. *et al*, *J. Chem. Soc.*, 1961, 4140 (struct, props)Christopher, P.M. *et al*, *J. Chem. Eng. Data*, 1967, **12**, 333 (props)Davis, F.A. *et al*, *J. Org. Chem.*, 1971, **36**, 1300 (props, nmr)Christopher, P.M. *et al*, *J. Chem. Eng. Data*, 1979, **24**, 67 (props)

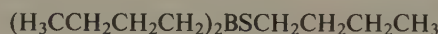
Deshpande, P.B. *et al*, *J. Chem. Eng. Data*, 1979, **24**, 263 (props)

Jaworski, K. *et al*, *Przem. Chem.*, 1981, **60**, 18; *CA*, **94**, 47554q (synth, props)

Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 1056.

C₁₂H₂₇BS**B-00824****Dibutyl(butylthio)borane**

Dibutylthioborinic acid butyl ester, 10Cl, 9Cl, 8Cl [2938-93-4]



M 214.215

Air- and moisture-sensitive liq. d₂₀ 0.837. Bp₈ 117.5-118.5°. n_D²⁰ 1.4548.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1959, 172 (synth)

Laurent, J.P., *Bull. Soc. Chim. Fr.*, 1962, 558.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 1823; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **25**, 1717 (use)

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1843; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 1704 (props)

Bagdasaryan, G.B. *et al*, *Arm. Khim. Zh.*, 1979, **32**, 303; *CA*, **92**, 6578r (synth, props)

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1340; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **28**, 1253 (use)

C₁₂H₂₇B₃Cl₃N₃**B-00825**

1,3,5-Tributyl-2,4,6-trichloroborazine, 10Cl, 9Cl, 8Cl
1,3,5-Tributyl-2,4,6-trichloroborazole
[3982-02-3]

As 2,4,6-Tribromoborazine, B-00015 with



M 352.154

Solid at r.t., sensitive to moisture. Mp 30°. Bp_{0.5} 115-20° (Bp_{0.2} 118°).

Turner, H.S. *et al*, *Chem. Ind. (London)*, 1958, 526 (synth)

Butcher, I.M. *et al*, *J. Inorg. Nucl. Chem.*, 1965, **27**, 817 (props)

Turner, H.S. *et al*, *J. Chem. Soc.*, 1965, 6421 (synth, props)

Pasdeloup, M. *et al*, *J. Chim. Phys. Phys. Chim. Biol.*, 1972, **69**, 1022; *CA*, **77**, 87302m.

Sheikh, S.U., *CA*, 1981, **94**, 75999g.

C₁₂H₂₇B₃O₃**B-00826**

Tributylboroxin, 10Cl, 9Cl, 8Cl
[7359-98-0]

As Boroxin, B-00019 with



M 251.774

Used in production of epoxide resins. Moisture-sensitive liq., disproportionates above 200°. d₂₅ 0.872. Fp -50°. Bp 259° (extrapolated), Bp₁₆ 134°. n_D²⁵ 1.4193.

Carrazzoni, N.E. *et al*, *Anales. Assoc. Quim. Arg.*, 1961, **49**, 46 (ir)

McCusker, P.A. *et al*, *J. Org. Chem.*, 1964, **29**, 2093 (synth)

Brooks, C.J.W. *et al*, *Org. Mass Spectrom.*, 1970, **3**, 231 (glc, ms)

Laurent, J.P. *et al*, *Bull. Soc. Chim. Fr.*, 1970, **3**, 836 (pmr, nmr)

Davies, A.G. *et al*, *Acc. Chem. Res.*, 1972, **5**, 387 (props)

Tsvetkov, V.G. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 269.

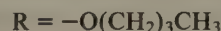
C₁₂H₂₇B₃O₆

Tributoxyboroxin, 10Cl, 9Cl, 8Cl

Butyl metaborate

[101-36-0]

As Boroxin, B-00019 with



M 299.772

Used in production of heat resistant epoxide resins and for removal of nitrogen from petrol hydrocarbons. Liq., dec. on distillation, hydrolysed by water, sensitive to air. d₂₀ 1.014. Bp 280° dec. n_D²⁵ 1.420.

Lappert, M.F. *et al*, *J. Chem. Soc.*, 1958, 2790 (synth)

Aubrey, D.W. *et al*, *J. Chem. Soc.*, 1960, 1931 (ir)

Laurent, J.P. *et al*, *Bull. Soc. Chim. Fr.*, 1966, **3**, 908.

Settepani, J.A. *et al*, *J. Econ. Entomol.*, 1969, **62**, 375 (use)

Dzhemilev, U.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 553; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 509 (use)

C₁₂H₂₈B[⊖]**B-00828**

Hydrotris(1-methylpropyl)borate(1-), 10Cl, 9Cl

Tri-sec-butylhydroborate. Tri-sec-butylborohydride. Selectride



M 183.163 (ion)

Li salt: [38721-52-7]. *L-Selectride*.

C₁₂H₂₈B^{Li} M 190.104

Often prepd. *in situ*. Available commercially.

Stereoselective reducing agent for cyclic and bicyclic ketones. Air- and moisture-sensitive. Sol. THF, Et₂O.

▷ Pyrophoric. Flash point of THF soln. -17°

K salt: [54575-49-4]. *K-Selectride*.

C₁₂H₂₈B^K M 222.262

Pure compd. not isol. Available commercially as THF soln. Stereoselective reducing agent. Colourless to yellow soln. in THF, stable indefinitely under N₂ but v. sensitive to air and moisture. Sol. THF.

▷ Flammable. Flash pt. of soln. -17°. Irritant, may cause burns

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 7159 (synth)

Brown, C.A., *J. Am. Chem. Soc.*, 1973, **95**, 4100 (synth, use)

Ganem, B. *et al*, *J. Org. Chem.*, 1975, **40**, 146, 2846 (use, props)

Strouf, O. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 391 (props)

Inorg. Synth., 1977, **17**, 26 (synth, ir)

Dauben, W.G. *et al*, *Tetrahedron Lett.*, 1978, 4487 (props)

U.S.P., 4 082 810, (1978); *CA*, **89**, 109936y (synth)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (synth, nmr)

Yamamoto, Y. *et al*, *CA*, 1980, **92**, 139884j (rev)

C₁₂H₂₈B[⊖]**B-00829**

Hydrotris(2-methylpropyl)borate(1-), 10Cl

Triisobutylhydroborate. Triisobutylborohydride



M 183.163 (ion)

Li salt: [63717-73-7].

C₁₂H₂₈B^{Li} M 190.104

Reducing agent. Air- and moisture-sensitive. Sol. THF. Commercially available as THF soln.

▷Flash point of soln. -15°

K salt: [67940-40-3].

C₁₂H₂₈BK M 222.262

Generally prepd. *in situ*; no phys. props. reported. Reducing agent. Air- and moisture-sensitive. Sol. THF.

Strouf, O. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 391 (props)

Brown, C.A., *J. Organomet. Chem.*, 1978, **156**, C17.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 3343 (synth, *ir*, *nmr*)

Brown, C.A. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 3964 (synth, *nmr*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 5004 (*nmr*, *ir*, *synth*)

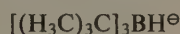
Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **166**, 271; 1980, **188**, 1 (synth, *nmr*, *ir*)

C₁₂H₂₈B[⊖]

B-00830

Tri-*tert*-butylhydroborate

Tris(1,1-dimethylethyl)hydroborate(1-), 10Cl. *Tri-tert-butylborohydride*



M 183.163 (ion)

Li salt: [63717-92-0].

C₁₂H₂₈BLi M 190.104

Characterised spectroscopically.

Strouf, O. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 391 (props)

Nöth, H. *et al*, *J. Organomet. Chem.*, 1977, **142**, 281 (synth, *nmr*)

C₁₂H₂₈B[⊖]

B-00831

Tributylhydroborate(1-), 10Cl

Tributylborohydride



M 183.163 (ion)

Li salt: [67335-72-2].

C₁₂H₂₈BLi M 190.104

Selective reducing agent. Air- and moisture-sensitive; stable in THF soln. under N₂. Sol. THF.

K salt: [67940-39-0].

C₁₂H₂₈BK M 222.262

Selective reducing agent. Air- and moisture-sensitive. Sol. THF.

Brown, C.A. *et al*, *J. Organomet. Chem.*, 1978, **156**, C17, 111.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 3343; 1979, **44**, 5004 (*ir*, *nmr*, *synth*)

Brown, C.A. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 3964 (synth, *nmr*)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **166**, 281; 1980, **188**, 1 (synth, *nmr*)

C₁₂H₂₈BN

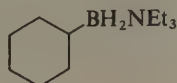
B-00832

Cyclohexylborane triethylamine

Cyclohexyl(N,N-diethylethanamine)dihydroboron, 10Cl.

N,N-Diethylethanamine, compd. with cyclohexylborane(1:1), 9Cl. *Monocyclohexylborane triethylamine*

[56118-66-2]



M 197.170

Colourless viscous liq.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2791 (synth)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **135**, C10 (synth)

C₁₂H₂₈BN

B-00833

Dibutyl(diethylamino)borane, 8Cl

1,1-Dibutyl-N,N-diethylboranamine, 10Cl, 9Cl.

Dibutyl(diethylamino)borine

[4268-15-9]



M 197.170

Air- and moisture-sensitive liq. d₂₀ 0.757. Bp_{2.0} 75-6°, Bp_{1.5} 52-5°. n_D²⁰ 1.4358.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1961, **136**, 356 (synth)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1972, 2372.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 870; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 848, 1924, 2053.

Gupta, S.K., *J. Organomet. Chem.*, 1978, **156**, 95.

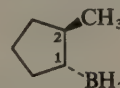
Bagdasaryan, G.B. *et al*, *Arm. Khim. Zh.*, 1979, **32**, 203; *CA*, **92**, 6578r.

C₁₂H₂₈BN

B-00834

(2-Methylcyclopentyl)borane

Dihydro(2-methylcyclopentyl)boron



M 197.170

(1*RS*,2*SR*)-form

(±)-trans-form

*Et*₃N complex: [56118-61-7].

C₁₂H₂₈BN M 197.170

Useful store for the otherwise unstable 2-methylcyclopentylborane. Liq. Bp₁₅ 60-1°. n_D²⁰ 1.429.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2791 (synth, *ir*)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **135**, C10 (synth)

C₁₂H₂₈B₂O

B-00835

Oxybis[dipropylborane], 10Cl, 9Cl

Bis(dipropylboron)oxide. *Tetrapropyl*diboron oxide

[52102-14-4]



M 209.973

Prepd. by hydrol. of (H₃CCH₂CH₂)₃B in presence of (H₃C)₃CCOObEt₂. Air- and moisture-sensitive liq. Sol. THF.

Köster, R. *et al*, *Justus Liebig's Ann. Chem.*, 1974, 54 (synth)
Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1919; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1783 (use)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1392 (synth)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (synth)

Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, **3**, 695 (rev)

Paetzold, P. *et al*, *Z. Naturforsch., B*, 1980, **35**, 568 (use)

C₁₂H₃₀BN

B-00836

Tri-*tert*-butylborane ammonia

Amminetris(1,1-dimethylethyl)boron, 10Cl. *Tris*(1,1-dimethylethyl)borane, ammoniate

[65568-78-7]



M 199.186

Mp 91-3°.

Nöth, H. *et al*, *J. Organomet. Chem.*, 1977, **142**, 281 (*synth*, *pmr*, *cmr*)**C₁₂H₃₀BN****B-00837****Tripropylborane trimethylamine**

(N,N-Dimethylmethanamine)tripropylboron, 10Cl.

N,N-Dimethylmethanamine, compd. with tripropylborane (1:1)

[62685-91-0]



M 199.186

Costes, J.P. *et al*, *J. Chim. Phys. Phys.-Chim. Biol.*, 1976, **73**, 16.**C₁₂H₃₀BN₃****B-00838****Tris(diethylamino)borane, 8Cl**

Hexaethylboranetriamine, 10Cl, 9Cl.

Trisdiethylaminoboron

[867-97-0]

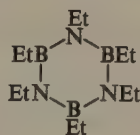


M 227.199

Chemosterilant against screwworm flies. Liq., sensitive to moisture. Sol. pentane. d₂₀ 0.826. Bp 220°, Bp_{0.4} 50-3°. n_D²⁰ 1.4450.Gerrard, W. *et al*, *J. Chem. Soc.*, 1957, 381 (*synth*, *props*)Dornow, A. *et al*, *Z. Anorg. Allg. Chem.*, 1958, **294**, 81.Beck, W. *et al*, *Chem. Ber.*, 1972, **105**, 2883 (*nmr*)Gal'chenko, G.L. *et al*, *Zh. Fiz. Khim.*, 1973, **47**, 1606; *CA*, **79**, 91431m (*synth*, *props*)*Inorg. Synth.*, 1977, **17**, 159 (*synth*)Davidson, G. *et al*, *J. Chem. Soc., Dalton Trans.*, 1981, 306 (*ir*, *raman*)**C₁₂H₃₀B₃N₃****B-00839****Hexaethylborazine, 9Cl**

Hexaethylborazole

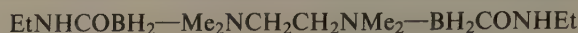
[839-71-4]



M 248.819

Mp 88°. Bp_{0.2} 98°.Butcher, I.M. *et al*, *J. Chem. Soc.*, 1964, 4528 (*synth*)Viswamitra, M.A. *et al*, *Z. Kristallogr., Kristallgeom.,**Kristallphys., Kristallchem.*, 1965, **121**, 472 (*cryst struct*)Cros, G. *et al*, *Bull. Soc. Chim. Fr.*, 1969, 2601 (*pmr*)**C₁₂H₃₂B₂N₄O₂****B-00840****Tetramethylethylenediamine bis[(ethylcarbamoyl)borane]***Bis[(ethylamino)carbonyl]tetrahydro[μ-(N,N,N',N'-tetramethyl-1,2-ethanediamine-N:N')]diboron*, 10Cl.*N-Ethylboranecarboxamide compd. with N,N,N',N'-tetramethyl-1,2-ethanediamine (2:1). N,N,N',N'-Tetramethylethylenediaminebis(N-ethylamido)borane*

[72695-29-5]

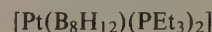


M 286.030

White solid. Sol. CH₂Cl₂. Mp 103-10°.Spielvogel, B.F. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **41**, 1223 (*synth*)Hall, I.H. *et al*, *J. Pharm. Sci.*, 1980, **69**, 1025; 1981, **70**, 339 (*pharmacol*)**C₁₂H₄₂B₈P₂Pt****B-00841****[η³-Dodecahydrooctaborato(2-)]bis(triethylphosphine)platinum, 9Cl**

[Octaborane(12)]bis(triethylphosphine)platinum, 8Cl

[12563-57-4]



M 529.971

Photographic fogging agent.

Kane, A.R. *et al*, *J. Am. Chem. Soc.*, 1970, **92**, 2571.Riggs, W.M., *Anal. Chem.*, 1972, **44**, 830.**C₁₂H₄₂B₁₀P₂Pt****B-00842****[(5,6,7,8,9,10-η)Dodecahydrodecaborato(2-)]bis(triethylphosphine)platinum, 9Cl**

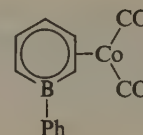
[12375-22-3]



M 551.591

Possible developing agent for AgNO₃-based invisible inks. Yellow cryst. (MeCN), dec. >180°.Klanberg, F. *et al*, *Inorg. Chem.*, 1968, **7**, 2072 (*synth*, *ir*, *nmr*)Riggs, W.M., *Anal. Chem.*, 1972, **44**, 830 (*pe*)**C₁₃H₁₀BCoO₂****B-00843****Dicarbonyl[(1,2,3,4,5,6-η)-1-phenylboratabenzene]cobalt, 9Cl**

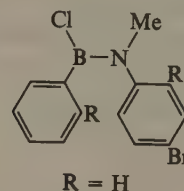
[53852-42-9]



M 267.964

Cryst. (pentane). *ir* ν_{co} 2043, 1990 cm⁻¹ (hexane). ¹¹B nmr -20.5 ppm (BF₃·Et₂O ref.).Herberich, G.E. *et al*, *Z. Naturforsch., B*, 1974, **29**, 439 (*synth*, *ir*, *nmr*, *ms*)**C₁₃H₁₂BBrClN****B-00844****[Methyl(4-bromophenyl)amino]chloro(phenyl)borane***N-(4-Bromophenyl)-1-chloro-N-methyl-1-phenylboranamine*, 10Cl

[66338-33-8]



R = H

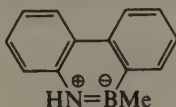
M 308.412

Air- and moisture-sensitive.

Ziegler, M.L. *et al*, *Z. Naturforsch.*, **B**, 1978, **33**, 200 (*struct*)
 Friebolin, H. *et al*, *Org. Magn. Reson.*, 1977, **10**, 157 (*synth*,
nmr)

C₁₃H₁₂BN**B-00845****10-Methyl-10,9-borazarophenanthrene**

5,6-Dihydro-6-methyldibenz[c,e][1,2]azaborine, 9CI
 [15813-13-5]



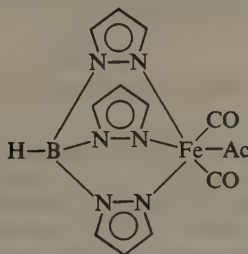
M 193.055

Cryst. (pet. ether). Mp 103-4°. $\lambda_{\max}$ 220 (log ϵ 4.203),
 224 (4.195), 230 (4.191), 236 (4.191), 240 (4.203),
 246 (4.211), 250 (4.205), 298 (3.725), 312 (3.944) and
 324 (3.995) nm.

Dewar, M.J.S. *et al*, *J. Chem. Soc.*, 1958, 3073; *J. Am. Chem.*
Soc., 1968, **90**, 706.
Org. Synth., 1966, **46**, 65.

C₁₃H₁₃BFeN₆O₃**B-00846****Acetyldicarbonyl[hydrotris(1H-pyrazolato-N¹)borato(1-)-N²,N^{2'},N^{2''}]iron, 9CI**

[43070-44-6]



M 367.941

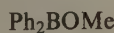
Bright-yellow cryst. (CH₂Cl₂/hexane). Decarbonylates
 to the Fe-Me compd. in soln.

Cotton, F.A. *et al*, *Inorg. Chim. Acta*, 1973, **7**, 161 (*synth*, *ir*,
pmr, *struct*)

C₁₃H₁₃BO**B-00847****Methoxydiphenylborane**

Diphenylborinic acid methyl ester, 10CI, 9CI, 8CI. Methyl
 diphenylborinate

[13471-36-8]



M 196.055

Liq., moisture-sensitive, but stable indefinitely when
 stored under inert atm. Sol. nonhydroxylic solvs. Bp₁₀
 132°.

Aubrey, D.W. *et al*, *Proc. Chem. Soc. London*, 1960, 148
 (*props*)

Hofmeister, H.K. *et al*, *J. Inorg. Nucl. Chem.*, 1964, **26**, 1209
 (*pmr*)

Jefferson, R. *et al*, *J. Chem. Soc. (A)*, 1966, 1584.

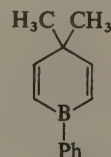
Jacob, P., *J. Organomet. Chem.*, 1978, **156**, 101 (*synth*, *pmr*)

Paetzold, P. *et al*, *Chem. Ber.*, 1979, **112**, 663.

C₁₃H₁₅B**B-00848****4,4-Dimethyl-1-phenyl-1-bora-2,5-cyclohexadiene**

1,4-Dihydro-4,4-dimethyl-1-phenylborin, 10CI

[62496-51-9]



M 182.072

Characterized as its transition metal complex derivs. Air-
 sensitive.

Cyclopentadienylcobalt complex: [62479-24-7]. (η^5 -
 2,4-Cyclopentadien-1-yl)[(1,2,3,5,6- η)-1,4-dihydro-
 4,4-dimethyl-1-phenylborin]cobalt.

C₁₈H₂₀BCo M 306.099

Red cryst. (pentane). Mp 60°.

Tricarbonyliron complex: see *Tricarbonyl[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin]iron*, B-
 00987

Ni complex: [74982-02-8]. *Bis[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-B]nickel*.

C₂₆H₃₀B₂Ni M 422.833

Yellow-orange needles. Mp 183-4°.

Pd complex: [74989-66-5]. *Bis[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-B]palladium*.

C₂₆H₃₀B₂Pd M 470.563

Yellow-orange cryst. Mp 138-9°.

Pt complex: [74989-69-8]. *Bis[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-B]platinum*.

C₂₆H₃₀B₂Pt M 559.223Yellow needles. Mp 173-4°. Bp_{0.000001} 120° subl.

Herberich, G.E. *et al*, *Chem. Ber.*, 1977, **110**, 760 (*synth*, *nmr*,
pmr, *props*)

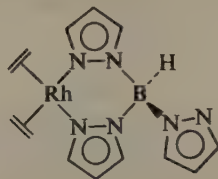
Herberich, G.E. *et al*, *Chem. Ber.*, 1977, **110**, 1167 (*props*)

Herberich, G.E. *et al*, *J. Organomet. Chem.*, 1980, **191**, 27
 (*props*, *pmr*, *nmr*)

Having problems with locating a
 compound? Have you checked the
 indexes?

C₁₃H₁₈BN₆Rh**B-00850**

Bis(ethene)[hydrotris(1*H*-pyrazolato-*N*)borato(1-)-*N*²,*N*²]-rhodium, 9Cl
Bis(ethylene)[tris(pyrazolyl)borato]rhodium
[52668-39-0]



M 372.041

Pyrazolyl groups are fluxional and magnetically equivalent. Ethylene groups are also fluxional. Yellow, air-stable cryst. Dec. >140°, or on attempted subl.

Trofimenko, S. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 588 (*synth*, *pmr*)

O'Sullivan, D. *et al*, *J. Organomet. Chem.*, 1974, **65**, C47 (*struct*)

C₁₃H₁₉BClN**B-00851**

9-Chloro-9-borabicyclo[3.3.1]nonane pyridine
Chloro-1,5-cyclooctanediyl(pyridine)boron, 10Cl. Pyridine compd. with 9-chloro-9-borabicyclo[3.3.1]nonane(1:1), 8Cl
[22086-36-8]

As 9-Chloro-9-borabicyclo[3.3.1]nonane dimethyl sulfide, B-00695 with

L = Py

M 235.563

Cryst. Mp 139-40°.

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1968, **719**, 169 (*synth*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 846 (*cmr*, *nmr*)

C₁₃H₂₀BCl**B-00852**

9-(5-Chloro-1-pentynyl)-9-borabicyclo[3.3.1]nonane, 10Cl
[62459-80-7]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with

R = —C≡CCH₂CH₂CH₂Cl

M 222.564

Sensitive to air.

Sinclair, J.A. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 954.

Molander, G.A. *et al*, *J. Org. Chem.*, 1977, **42**, 3106.

C₁₃H₂₀BN**B-00853**

9-Borabicyclo[3.3.1]nonane pyridine
1,5-Cyclooctanediylhydro(pyridine)boron, 10Cl. Pyridine, compd. with 9-borabicyclo[3.3.1]nonane(1:1). 9-BBN pyridine complex
[64045-95-0]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with

L = pyridine

M 201.118

Useful selective reducing agent for aldehydes in presence of ketones or other groups. Cryst. (Et₂O/pentane); stable for several hours in air with no change in Mp. 75.5-76°.

Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 3090 (*synth*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1977, **42**, 4169 (*use*)

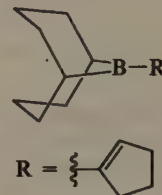
Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1979, **98**, 117.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 846; 1748 (*props*, *nmr*)

Soderquist, J.A. *et al*, *J. Org. Chem.*, 1981, **46**, 4599.

C₁₃H₂₁B**B-00854**

9-(1-Cyclopenten-1-yl)-9-borabicyclo[3.3.1]nonane, 10Cl
[74142-80-6]



M 188.119

Synthetic intermed. Sensitive to air.

Miyaura, N. *et al*, *Tetrahedron Lett.*, 1980, **21**, 537.

C₁₃H₂₁BCl₂N₃ORh**B-00855**

Dichloro(*N,N*-dimethylformamide-*O*)bis(pyridine)tetrahydroborato(1-)-*H*[rhodium, 10Cl
Dichloro(*N,N*-dimethylformamide)bis(pyridine)rhodium(1+) tetrahydroborate, 8Cl
[72930-45-1]

Rh(HCONMe₂)Py₂Cl₂(BH₄)

M 419.950

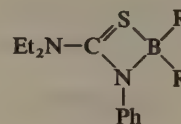
Struct. not reported. Hydrogenation and hydroformylation catalyst for olefins. Dark-red cryst. (CHCl₃). ir ν_{CO} 1610 cm⁻¹. 1:1 Electrolyte in DMF with proposed dissociation of Cl⁻ rather than BH₄⁻.

Abley, P. *et al*, *J. Chem. Soc. (C)*, 1971, 840 (*synth*, *ir*, *pmr*, *mv*, *ms*)

U.S.P., 4 178 312, (1979); *CA*, **92**, 110538p (*use*)

C₁₃H₂₁BN₂S**B-00856**

(*N,N*-Diethyl-*N'*-phenylthioureato)dimethylborane
(*N,N*-Diethyl-*N'*-phenylthioureato-*N'*,*S*)dimethylboron, 10Cl
[73768-06-6]



R = Me

M 248.192

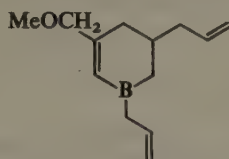
Formed from the reaction of Et₂NCSNPhSiMe₃ with Me₂BCl.

Marringle, W., *Z. Naturforsch., B*, 1980, **35**, 164 (*synth*)

C₁₃H₂₁BO

B-00857

1,5-Diallyl-3-(methoxymethyl)-1-bora-2-cyclohexene
1,2,3,4-Tetrahydro-5-(methoxymethyl)-1,3-di-2-propenylborin, 10Cl
 [69594-46-3]



M 204.118

Prepd. by allylboronation of 3-methoxypropyne. Air-sensitive. Not isol. pure; part. cyclises on dist.

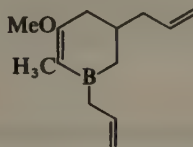
Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1978, **243**, 929 (props)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2541; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **28**, 2358 (synth)

C₁₃H₂₁BO

B-00858

1,5-Diallyl-3-methoxy-2-methyl-1-bora-2-cyclohexene
1,2,3,4-Tetrahydro-5-methoxy-6-methyl-1,3-di-2-propenylborin, 10Cl
 [72997-22-9]



M 204.118

Prepd. by allylboronation of 1-methoxypropyne. Air-sensitive liq. Bp_{0.05} 75-8°. n_D²⁰ 1.5015.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2335; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **28**, 2156 (synth, ir, pmr)

C₁₃H₂₁BO

B-00859

7-(Methoxymethyl)-3-(2-propenyl)-3-borabicyclo[3.3.1]non-6-ene, 10Cl
3-Allyl-7-(methoxymethyl)-3-borabicyclo[3.3.1]non-6-ene
 [69464-54-6]

As 7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]non-6-ene, B-00670 with

R = —CH₂CH=CH₂, R' = —CH₂OMe

M 204.118

Air- and moisture-sensitive liq. Bp₁ 76-7°. n_D¹⁹ 1.4490.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1978, **243**, 929 (synth)

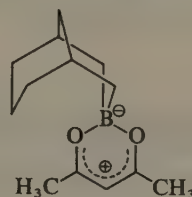
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2541; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2358 (synth, ir, pmr)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1881; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1355 (pmr)

C₁₃H₂₁BO₂

B-00860

3-Borabicyclo[3.3.1]non-3-yl acetylacetonate
[1,3-Cyclohexanediylbis(methylene)](2,4-pentanedionato-O,O')boron, 10Cl, 9Cl
 [76069-95-9]



M 220.118

Bright-yellow cryst. Mp 65-75°.

Gursky, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (pmr, cmr)

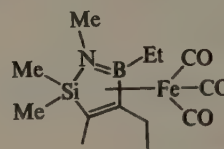
Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (pmr)

Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312 (synth, ir, pmr)

C₁₃H₂₂BFeNO₃Si

B-00861

Tricarbonyl[(3,4-η)-4,5-diethyl-1,2,2,3-tetramethyl-1-aza-2-sila-5-boracyclopent-3-ene-B⁵,N¹]iron
Tricarbonyl[(2,3,4,5-η)-4,5-diethyl-1,2,2,3-tetramethyl-Δ³⁻¹,2,5-azasilaboroline]iron
 [81952-05-8]



M 335.064

Orange-red cryst. (pentane). Mp 189-90° dec. Bp_{0.001} 60° subl.

Köster, R. *et al*, *Chem. Ber.*, 1982, **115**, 738 (synth, struct, ir, ms, pmr, cmr, nmr)

C₁₃H₂₃B

B-00862

9-Cyclopentyl-9-borabicyclo[3.3.1]nonane, 10Cl
B-Cyclopentyl-9-BBN
 [49623-12-3]

As 9-(1-Cyclopenten-1-yl)-9-borabicyclo[3.3.1]nonane, B-00854 with

R = cyclopentyl

M 190.135

Useful reagent for transfer of a cyclopentyl group. Liq., sensitive to air. Bp_{0.2} 68-70°.

Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1 (synth)

Levy, A.B., *J. Org. Chem.*, 1978, **43**, 4684.

Midland, M.M. *et al*, *J. Organomet. Chem.*, 1978, **156**, 203.

Brown, H.C. *et al*, *Synthesis*, 1979, 701.

Levy, A.B., *Tetrahedron Lett.*, 1979, 4021.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 4067.

C₁₃H₂₃B

B-00863

9-(1-Pentenyl)-9-borabicyclo[3.3.1]nonane, 10Cl
B-1-Pentenyl-9-BBN
 [77161-71-8]

As 9-(1-Cyclopenten-1-yl)-9-borabicyclo[3.3.1]nonane, B-00854 with

R = —CH=CHCH₂CH₂CH₃

M 190.135

(E)-form [69322-44-7]

Formed by hydroboration of 1-pentyne with 9-BBN. Reagent for transfer of 1-pentenyl group, sometimes stereospecifically. Air-sensitive.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 96.Levy, A.B. *et al*, *Synthesis*, 1980, 945.C₁₃H₂₄B[⊖]

B-00864

9-Cyclopentyl-9-boratabicyclo[3.3.1]nonane, 10Cl

B-Cyclopentyl-9-BBN hydride

As 9-Boratabicyclo[3.3.1]nonane, B-00546 with

R = cyclopentyl, R' = H

M 191.143 (ion)

Li salt: [69593-80-2].

C₁₃H₂₄BLi M 198.084

Air- and moisture-sensitive.

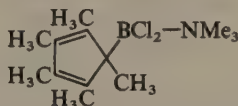
Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 467.Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*synth*, *nmr*)C₁₃H₂₄BCl₂N

B-00865

(1,2,3,4,5-Pentamethyl-2,4-cyclopentadien-1-yl)dichloroborane trimethylamine

Dichloro(N,N-dimethylmethanamine)(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)boron, 10Cl. 1-Dichloroboryl-1,2,3,4,5-pentamethyl-2,4-cyclopentadiene trimethylamine

[60828-65-1]



M 276.055

Cryst. (methylcyclohexane). Mp 135° dec.

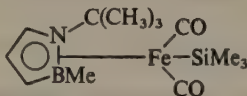
Jutzi, P. *et al*, *Angew. Chem.*, 1977, **89**, 44 (*pmr*, *ms*, *synth*)Jutzi, P. *et al*, *Chem. Ber.*, 1979, **112**, 2481 (*synth*, *ir*, *nmr*, *pmr*)C₁₃H₂₄BFeNO₂Si

B-00866

Dicarbonyl[(3,4,5-η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1H-1,2-azaborol-3-yl-B²,N¹](trimethylsilyl)iron, 10Cl

(1-tert-Butyl-2,3-dihydro-2-methyl-1H-azaborol-3-yl)dicarbonyl(trimethylsilyl)iron

[75325-35-8]



M 321.081

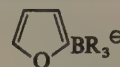
Waxy yellow solid.

Schulze, J. *et al*, *J. Organomet. Chem.*, 1980, **193**, 83 (*synth*, *ms*, *ir*, *pmr*, *nmr*)C₁₃H₂₄BO[⊖]

B-00867

2-Furanyltripropylborate(1-), 10Cl

2-Furyltripropylborate

R = H₃CCH₂CH₂-

M 207.142 (ion)

Li salt: [70415-39-3].

C₁₃H₂₄BLiO M 214.083Synthetic intermed., prepd. *in situ*.Akimoto, I. *et al*, *Synthesis*, 1979, 146 (*synth*)C₁₃H₂₅B

B-00868

3-tert-Butyl-7-methyl-3-borabicyclo[3.3.1]nonane

3-(1,1-Dimethylethyl)-7-methyl-3-borabicyclo[3.3.1]-

nonane, 10Cl. 3-tert-Butyl-7-methyl-3-BBN

[76062-78-7]

As 3-Borabicyclo[3.3.1]nonane, B-00544 with

X = -C(CH₃)₃, R = CH₃

M 192.151

Air-sensitive liq. Sol. CH₂Cl₂. Bp₁ 81-3°.Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (*cmr*)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (*cmr*)Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312 (*synth*)C₁₃H₂₅B

B-00869

9-(1,2-Dimethylpropyl)-9-borabicyclo[3.3.1]nonane, 10Cl

B-Siamyl-9-borabicyclo[3.3.1]nonane. B-Siamyl-9-BBN

[63942-78-9]

As 9-(1-Cyclopenten-1-yl)-9-borabicyclo[3.3.1]nonane, B-00854 with

R = -CH(CH₃)CH(CH₃)₂

M 192.151

Useful as a mild reducing agent for aldehydes. Sensitive to air.

Midland, M.M. *et al*, *J. Organomet. Chem.*, 1977, **134**, C17.Midland, M.M. *et al*, *J. Org. Chem.*, 1978, **43**, 1470.Midland, M.M. *et al*, *J. Organomet. Chem.*, 1978, **156**, 203.Midland, M.M. *et al*, *J. Organomet. Chem.*, 1979, **182**, C53.Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 846 (*nmr*)C₁₃H₂₅BO

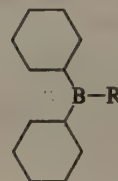
B-00870

Dicyclohexyl(methoxy)borane

Dicyclohexylborinic acid methyl ester, 10Cl, 9Cl, 8Cl.

Methyl dicyclohexylborinate

[32705-46-7]



R = OMe

M 208.150

Used in *synth.* of dicyclohexylketone by reaction with dichloromethyl methyl ether. Liq., can be dist. under N₂, but sensitive to air and moisture. Bp_{0.005} 75-80°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 2802 (*synth*)
 Carlson, B.A. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 6876 (*use*)
 Carlson, B.A. *et al*, *J. Organomet. Chem.*, 1974, **67**, C39 (*use*)
 Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1 (*synth*, *pmr*)
 Brown, H.C. *et al*, *J. Org. Chem.*, 1977, **42**, 1392 (*synth*, *props*)
 Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **131**, 163 (*synth*, *nmr*)

C₁₃H₂₅BS

B-00871

Dicyclohexyl(methylthio)borane

Dicyclohexylthioborinic acid methyl ester, 10Cl, 9Cl

[57476-24-1]

As Dicyclohexyl(methoxy)borane, B-00870 with

R = SMe

M 224.211

Prepd. *in situ* from tricyclohexylborane. Used in *synth.* of dicyclohexylbromoborane and of unsymmetrical conjugated diynes. Air- and moisture-sensitive liq. Bp₁ 109-10°, Bp_{0.1} 96°. *n*_D²⁰ 1.518, *m/e* 141.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1963, 646 (*props*)

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 531 (*use*)

Pelter, A. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 2087 (*synth*, *ms*, *props*)

Pelter, A. *et al*, *Tetrahedron Lett.*, 1976, 4385 (*use*)

C₁₃H₂₆B⁺

B-00872

Dicyclohexylhydromethylborate(1-), 10Cl

Dicyclohexylmethylhydroborate

As Dicyclohexyldihydroborate(1-), B-00797 with

R = Me

M 193.158 (ion)

Li salt: [61721-94-6].C₁₃H₂₆BLi M 200.099

Minor product from reaction of methyl lithium with dicyclohexylborane, which gives a mixture of the Li salts of dicyclohexyldihydro- and dicyclohexyldimethylborates. Stereoselective reducing agent.

U.S.P., 3 974 183, (1976); *CA*, **86**, 72219b (*use*)

Hubbard, J.L. *et al*, *J. Organomet. Chem.*, 1978, **156**, 81 (*nmr*)

C₁₃H₂₆BO⁺

B-00873

(Ethoxyethynyl)tripropylborate(1-), 10Cl

(Ethoxyethynyl)tripropylboranate

(H₃CCH₂CH₂)₃BC≡COEt⁺

M 209.158 (ion)

Li salt: [65467-78-9].C₁₃H₂₆BLiO M 216.099

Prepd. *in situ* from ethoxyethynyllithium and tripropylborane. Synthetic intermed.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 2633; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 2437 (*props*)

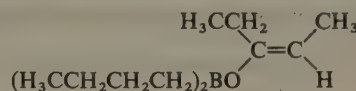
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 855; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **28**, 799 (*synth*)

C₁₃H₂₇BO

B-00874

Dibutyl(2-penten-3-yloxy)borane

Dibutylborinic acid 1-ethyl-1-propenyl ester, 10Cl



M 210.166

(Z)-form [78024-10-9]

Prepd. *in situ*. Intermed. in stereoselective aldol condensations. Air- and moisture-sensitive. Characterised spectroscopically.

Evans, D.A. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 3099 (*use*, *synth*, *pmr*)

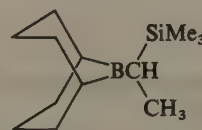
Evans, D.A. *et al*, *Pure Appl. Chem.*, 1981, **53**, 1109 (*use*, *synth*, *pmr*)

C₁₃H₂₇BSi

B-00875

9-[1-(Trimethylsilyl)ethyl]-9-borabicyclo[3.3.1]nonane, 10Cl

[72610-06-1]



M 222.252

Bp₁ 88-92°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 846 (*nmr*)

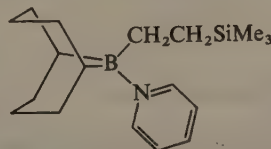
Soderquist, J.A. *et al*, *J. Org. Chem.*, 1980, **45**, 3571 (*nmr*, *synth*, *ms*, *pmr*)

C₁₃H₂₇BSi

B-00876

9-(2-Trimethylsilylethyl)-9-borabicyclo[3.3.1]nonane, 10Cl

[72610-05-0]



Py complex

M 222.252

Formed by hydroboration of vinyltrimethylsilane with 9-BBN.

Py complex: [72638-39-2]. 1,5-Cyclooctanediyl(pyridine)[2-(trimethylsilyl)ethyl]boron, 10Cl.

C₁₈H₃₂BNSi M 301.353

Ramsay, B.G. *et al*, *J. Organomet. Chem.*, 1977, **141**, 257 (*uv*, *nmr*, *struct*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 846 (*nmr*)

Soderquist, J.A. *et al*, *J. Org. Chem.*, 1980, **45**, 3571 (*synth*)

C₁₃H₂₉BO₂

B-00877

Dibutoxypentylborane

Pentylboronic acid dibutyl ester, 10Cl. 1-Pentaneboronic acid dibutyl ester, 8Cl

[3027-57-4]

H₃C(CH₂)₄B(OCH₂CH₂CH₂CH₃)₂

M 228.181

Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs. *d*₂₀ 0.829. Bp_{1.5} 144°. *n*_D²⁵ 1.4167.

Laurent, J.P. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1961, **253**, 1812 (*synth, props*)
 Gallais, F. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1964, **259**, 4262 (*props*)
 Baudet, J. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1967, **264**, 1090 (*props*)
 Tsvetkov, V.G. *et al*, *Zh. Obshch. Khim.*, 1979, **49**, 1852, 2406 (*props*)

C₁₃H₂₉BS**B-00878****Dibutyl(pentylthio)borane***Dibutylthioborinic acid pentyl ester, 10Cl*

[67682-93-3]



M 228.242

Air- and moisture-sensitive liq. Bp₄ 103-4°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 27, 1392 (*synth, props, nmr*)
 Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth, props, nmr*)

C₁₃H₃₀B[⊖]**B-00879****Methyltris(2-methylpropyl)borate(1-), 10Cl, 9Cl***Triisobutylmethylborate*

M 197.190 (ion)

Cu(I) salt: [59560-22-4].C₁₃H₃₀BCu M 260.736

Formed *in situ* by adding CuI to the Li salt. *Synth.* intermed. Air-sensitive. Sol. THF. Not fully characterised.

Miyaura, N. *et al*, *Tetrahedron Lett.*, 1976, 255; 1977, 173, 3369 (*synth, use*)

Yamada, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 275 (*synth, props*)

C₁₃H₃₀B[⊖]**B-00880****Tributylmethylborate(1-), 10Cl, 9Cl***Methyltributylborate*

M 197.190 (ion)

Cu(I) salt: [59560-21-3].C₁₃H₃₀BCu M 260.736

Prepd. *in situ* from Li salt and CuI. *Synth.* intermed. Air-sensitive. Sol. THF. Not fully characterised.

Maruyama, K. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 8068 (*props*)

Miyaura, N. *et al*, *Bull. Chem. Soc. Jpn.*, 1977, **50**, 2199 (*synth, props*)

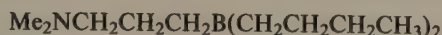
Miyaura, N. *et al*, *Tetrahedron Lett.*, 1977, 3369 (*synth, props*)

Yamada, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 275.

C₁₃H₃₀BN**B-00881****Dibutyl[3-(dimethylamino)propyl-C,N]boron, 10Cl**

3-(Dibutylboryl)-N,N-dimethylpropylamine. Dibutyl[3-(dimethylamino)propyl]borane

[72910-21-5]



M 211.197

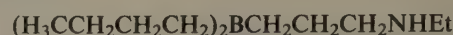
Exists as intramol. coord. form. Liq. d₂₀ 0.838. Bp₂ 98-100°.

Mostovoi, N.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1966, 90 (*synth*)

Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2226; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2048 (*ms*)

C₁₃H₃₀BN**B-00882****Dibutyl[3-(ethylamino)propyl-C,N]boron, 10Cl***Dibutyl[3-(ethylamino)propyl]borane*

[72909-88-7]



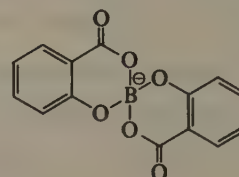
M 211.197

Exists as intramol. coord. form.

Zolotarev, B.M. *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2226; *Bull. Acad. Sci. USSR, Chem. Div. Sci.*, 2048 (*ms*)

C₁₄H₈BO₆[⊖]**B-00883****Bis[2-hydroxybenzoato(2-)-O¹,O²]borate(1-)***Bis(salicylato)borate. Borodisalicylate*

[38403-08-6]



M 283.024 (ion)

Anion formed in solns. of salicylic acid in presence of trihydroxyborane (boric acid). Known with many different counterions.

Na salt: [22364-90-5].C₁₄H₈BNaO₆ M 306.013

Used in manuf. of org. solvent-soluble dye salts.

Opaque cryst.

K salt: [72556-01-5].C₁₄H₈BKO₆ M 322.122

Rectangular platelets or microscopic leaflets.

Zn salt, decahydrate: [72556-00-4].C₂₈H₃₆B₂O₂₂Zn M 811.579

Solid.

NH₄ salt: [19443-40-4].C₁₄H₁₂BNO₆ M 301.062

Amorph. white solid (EtOH). Mp 283-7°.

Meulenhoff, J., *Recl. Trav. Chim. Pays-Bas*, 1925, **44**, 161.

Meulenhoff, J., *Z. Anorg. Allg. Chem.*, 1925, **142**, 373.

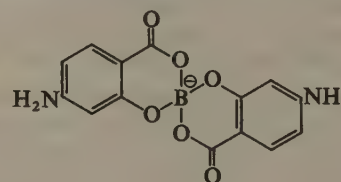
Larsson, R. *et al*, *Acta Chem. Scand.*, 1972, **26**, 1503 (*ir*)

Bassett, J. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 987 (*synth, props*)

Kostromina, N.A. *et al*, *Koord. Khim.*, 1980, **6**, 501; *CA*, **93**, 87473y (*pmr*)

Mardanenko, V.K. *et al*, *Koord. Khim.*, 1980, **6**, 1193; *CA*, **93**, 178691j (*synth, ir, props*)

Mardanenko, V.K. *et al*, *CA*, 1980, **93**, 214717h.

C₁₄H₁₀BN₂O₆[⊖]**B-00884****Bis[4-amino-2-hydroxybenzoato(2-)-O¹,O²]borate(1-), 10Cl***Bis(p-aminosalicylato)borate*

M 313.053 (ion)

H deriv.: [64012-96-0].

C₁₄H₁₁BN₂O₆ M 314.061

Colourless prismatic cryst. V. sol. PhNH₂, DMF, DMSO, H₂O, pract. insol. toluene, C₆H₆, AcOH. Mp 283°.

Na salt: [67481-59-8].

C₁₄H₁₀BN₂NaO₆ M 336.043

Rb salt: [67481-61-2].

C₁₄H₁₀BN₂O₆Rb M 398.521

Triclinic cryst. + 1H₂O.

Svarcs, E. *et al*, *CA*, 1977, **87**, 110732u.

Mardananeke, V.K., *CA*, 1978, **88**, 142344f; **89**, 122223h; 1979, **90**, 80145x; 1981, **94**, 21248t (*synth*, *ir*, *props*)

Kostromina, N.A. *et al*, *Koord. Khim.*, 1980, **6**, 501 (*pmr*)

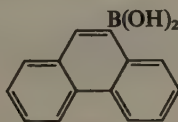
Zviedre, I. *et al*, *CA*, 1980, **93**, 177693z, 105188r (*cryst struct*)

C₁₄H₁₁BO₂

Dihydroxy(9-phenanthrenyl)borane

9-Phenanthrenylboronic acid, 10Cl, 9Cl. 9-(Dihydroxyboryl)phenanthrene

[68572-87-2]



M 222.050

Selective fluorescent reagent for hplc of bifunctional compds.

Poole, C.F., *J. High Resolut. Chromatogr. Chromatogr. Commun.*, 1978, **1**, 96 (*use*)

C₁₄H₁₅B

Ethylidiphenylborane, 10Cl, 9Cl

Diphenylethylborane

[40218-53-9]

Ph₂BEt

M 194.083

Prepd. from diphenylborane (itself prepd. *in situ*) and ethylene. Synthetic intermed. Sl. yellow liq., sensitive to air. Sol. THF, pentane, CCl₄. Bp_{0.08} 85-7°.

Py complex: Ethyldiphenylborane pyridine.

C₁₉H₂₀BN M 273.184

Mp 128°.

Soulié, J. *et al*, *Bull. Soc. Chim. Fr.*, 1966, 1981 (*deriv*)

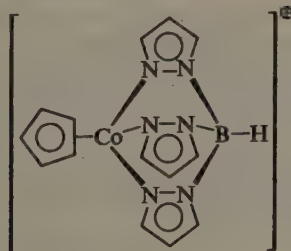
Cabiddu, S. *et al*, *Gazz. Chim. Ital.*, 1972, **102**, 555 (*synth*)

Jacob, P., *J. Organomet. Chem.*, 1978, **156**, 101 (*synth*, *pmr*)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)

C₁₄H₁₅BCoN₆[⊕]

(η^5 -2,4-Cyclopentadien-1-yl)[hydrotris(1-pyrazolyl)borato]-cobalt(1+), 9Cl



M 337.056 (ion)

Iodide: [51839-61-3].

C₁₄H₁₅BCoIN₆ M 463.960

No phys. props. reported.

O'Sullivan, D.J. *et al*, *J. Organomet. Chem.*, 1973, **57**, C58 (*synth*)

C₁₄H₁₅BO

Ethoxydiphenylborane

Diphenylborinic acid ethyl ester, 10Cl, 9Cl. Ethyl diphenylborinate

[43185-52-0]

Ph₂BOEt

M 210.082

Fungicide, fuel additive; used in *synth.* of diphenylborane (prepd. *in situ*). Air- and moisture-sensitive liq. Sol. nonhydroxylic solvs. Bp 100°.

Hawthorne, M.F., *J. Am. Chem. Soc.*, 1958, **80**, 4293 (*synth*)

U.S.P., 3 027 396, (1962); *CA*, **57**, 11231i

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1587; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 1458 (*props*)

Jacob, P., *J. Organomet. Chem.*, 1978, **156**, 101 (*use*)

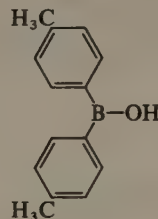
Paetzold, P. *et al*, *Chem. Ber.*, 1979, **112**, 663.

C₁₄H₁₅BO

Hydroxybis(4-methylphenyl)borane

Bis(4-methylphenyl)borinic acid, 10Cl. Di-p-tolylborinic acid

[66117-64-4]



M 210.082

Solid, somewhat unstable to air, and readily dehydrated. Mp 105°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1958, 419 (*synth*)

Coates, G.E. *et al*, *J. Chem. Soc.*, 1961, 4909 (*synth*)

Thorpe, F.G. *et al*, *J. Organomet. Chem.*, 1978, **145**, C26.

Stegmann, H.B. *et al*, *Tetrahedron Lett.*, 1979, 3689 (*props*)

C₁₄H₁₆B[⊖]

Dimethyldiphenylborate(1-), 10Cl

Me₂BPh₂[⊖]

M 195.090 (ion)

Li salt: [68132-95-6].

C₁₄H₁₆BLi M 202.031

Potential battery electrolyte.

Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81-4**, 131 (*props*)

Klemann, L.P. *et al*, *Proc. Electrochem. Soc.*, 1981, **81-4**, 179 (*use*)

C₁₄H₁₆BN

Dimethylaminodiphenylborane

N,N-Dimethyl-1,1-diphenylboranamine, 10Cl, 9Cl

[2237-45-8]

Ph₂BNMe₂

M 209.097

Colourless liq., stable in air. d₂₀ 0.999. Bp_{2.5} 121-2°, Bp₁ 103-5°. n_D¹⁵ 1.5718.

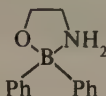
Coates, G.E. *et al*, *J. Chem. Soc.*, 1961, 1000 (*synth*, *ir*)
 Ruff, J.K., *J. Org. Chem.*, 1962, **27**, 1020 (*synth*, *ir*, *nmr*)
 Becher, H.J. *et al*, *Adv. Chem. Ser.*, 1964, **42**, 71 (*ir*)
 Becher, H.J. *et al*, *Chem. Ber.*, 1965, **98**, 2159 (*pmr*)
 Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 1075 (*nmr*)
 Brown, C. *et al*, *J. Organomet. Chem.*, 1981, **217**, 139 (*synth*, *cmr*)

C₁₄H₁₆BNO

B-00892

(2-Aminoethoxy)diphenylborane

(2-Aminoethanolato-N,O)diphenylboron, 10Cl. Di-phenylborinic acid 2-aminoethylester. Aminoethyl diphenylborinate. Hydroxydiphenylborane ethanolamine [15614-89-8]



M 225.097

Intramolecularly coordinated cyclic molecule. Shows bactericidal, fungicidal and antiprotozoal props. Cryst. (EtOH aq.). Mp 190-1° (186-8°). Air-stable.

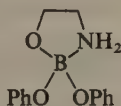
Letsinger, R.L. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 2491 (*synth*)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1957, 989 (*synth*)
 Bellamy, L.J. *et al*, *J. Chem. Soc.*, 1958, 2412 (*ir*)
 Rettig, S.J. *et al*, *Can. J. Chem.*, 1976, **54**, 3130 (*cryst struct*)
 Kliegel, W. *et al*, *Chem. Ber.*, 1977, **110**, 2067.
 Hohaus, E. *et al*, *Int. J. Mass Spectrom. Ion Phys.*, 1979, **31**, 113 (*ms*)

C₁₄H₁₆BNO₃

B-00893

(2-Aminoethoxy)diphenoxyborane

Boric acid (H₃BO₃) 2-aminoethyl diphenyl ester, 10Cl, 9Cl [151685-18-8]



M 257.095

Intramolecularly coordinated. Nmr shift reagent for flavonoids; spray reagent for sugar detection after chromatog.

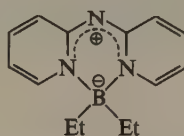
Niemann, G.J., *J. Chromatogr.*, 1979, **170**, 227 (*use*)
 Homberg, H. *et al*, *Phytochemistry*, 1980, **19**, 2443 (*use*)

C₁₄H₁₈BN₃

B-00894

Diethyl(N-2-pyridinyl-2-pyridinaminato-N^N,N')boron, 10Cl

[64800-08-4]



M 239.126

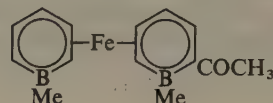
Yellow cryst., stable in air. Mp 77-9°. Bp₁ 140-5°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1921; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1795 (*synth*, *nmr*, *ms*, *ir*)
 Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1312; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1140 (*ms*)
 Lagutkin, N.A. *et al*, *Khim.-Farm. Zh.*, 1982, **16**, 695.

C₁₄H₁₈B₂FeO

B-00895

[(1,2,3,4,5,6-η)-2-Acetyl-1-methylboratabenzene][(1,2,3,4,5,6-η)-1-methylboratabenzene]iron, 9Cl [57692-67-8]



M 279.763

Ashe, A.J. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 6865 (*synth*, *pmr*, *ms*, *ir*)

C₁₄H₁₉B

B-00896

9-Phenyl-9-borabicyclo[3.3.1]nonane, 10Cl, 9Cl, 8Cl

B-Phenyl-9-borabicyclo[3.3.1]nonane. B-Phenyl-9-BBN [23418-91-9]

As 9-(1-Cyclopenten-1-yl)-9-borabicyclo[3.3.1]nonane, B-00854 with

R = Ph

M 198.114

Sensitive to air. Bp_{0.4} 90° (Bp_{0.3} 105°).

Piperidine complex: [65481-79-0].

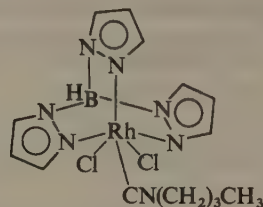
C₁₉H₃₀BN M 283.263

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 4304 (*synth*)
 Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1.
 Negishi, E. *et al*, *J. Org. Chem.*, 1975, **40**, 814.
 Ramsey, B.G. *et al*, *J. Organomet. Chem.*, 1977, **141**, 257 (*uv*, *nmr*, *struct*, *deriv*)
 Whitely, C.G., *J. Chem. Soc., Chem. Commun.*, 1981, 5 (*synth*)
 Whitely, C.G., *S. Afr. J. Chem.*, 1982, **35**, 9 (*synth*)

C₁₄H₁₉BCl₂N₇Rh

B-00897

Dichloro[hydrotris(1H-pyrazolato-N¹)borato(1-)-N²,N^{2'}-,N^{2''}](1-isocyanobutane)rhodium, 10Cl
 (Butyl isonitrile)dichloro[hydrotris(1H-pyrazolato-N¹-borato)rhodium [73117-45-0]



M 469.973

Bright yellow prisms. Mp 148-50°.

May, S. *et al*, *Inorg. Chem.*, 1980, **19**, 1582 (*synth*, *ir*, *pmr*)

C₁₄H₂₀B[⊖]

B-00898

9-Phenyl-9-boratabicyclo[3.3.1]nonane, 10Cl

B-Phenyl-9-BBN hydride

As 9-Boratabicyclo[3.3.1]nonane, B-00546 with

R = Ph, R' = H

M 199.122 (ion)

Li salt: [61722-00-7].C₁₄H₂₀BLi M 206.063

Air- and moisture-sensitive.

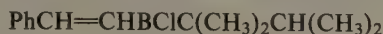
Hubbard, J.L. *et al*, *J. Organomet. Chem.*, 1978, **156**, 81 (*nmr*)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*synth*, *nmr*)C₁₄H₂₀BCl

B-00899

Chloro(2-phenylethenyl)(1,1,2-trimethylpropyl)borane, 10Cl

Chloro(2,3-dimethyl-2-butyl)(2-phenylethenyl)borane.

Chloro(2-phenylethenyl)thexylborane. Thexyl(2-phenylethenyl)chloroborane. Chlorostyrylthexylborane



M 234.575

(E)-form [76173-97-2]

Formed *in situ* from thexylchloroborane and PhC≡CH.

Synthetic intermed. Air- and moisture-sensitive. Sol.

non-hydroxylic solvs. Wrongly reported in *CA* as the*Z*-form.Zweifel, G. *et al*, *J. Org. Chem.*, 1981, **46**, 829 (*synth*, *use*)C₁₄H₂₀B₂CoF₄N₅O₄

B-00900

[Bis[μ-(2,3-butanedione dioximato)(2-)-O:O']tetrafluorodiborato(2-)-N,N',N'',N''']methyl(pyridine)cobalt, 9Cl

[Bis(dimethylglyoximato(2-))tetrafluorodiborato]-

methyl(pyridine)cobalt

[28627-87-4]

As Aqua[bis[μ-(2,3-butanedione dioximato)(2-)-O:O']][tetrafluorodiborato(2-)-N,N',N'',N''']methylcobalt, B-00609 with

X = Py

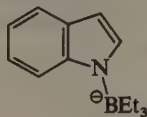
M 478.890

Vitamin B₁₂ analogue. Yellow cryst. (Me₂CO). Light-sensitive in soln.

Explodes at 245°

Schrauzer, G.N. *et al*, *J. Am. Chem. Soc.*, 1966, **88**, 3738(*synth*, *props*)Giannotti, C. *et al*, *J. Organomet. Chem.*, 1975, **91**, 357 (*props*)C₁₄H₂₁BN[⊖]

B-00901

Triethyl-1*H*-indol-1-ylborate(1-), 10Cl

M 214.137 (ion)

Li salt: [69289-42-5].C₁₄H₂₁BLiN M 221.078

Shows electrical resistivity; used in battery electrolytes.

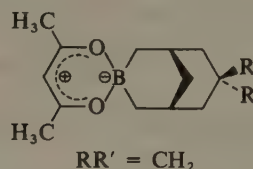
U.S.P., 4 117 213, (1978); *CA*, **90**, 124645s (*props*, *use*)U.S.P., 4 104 450, (1978); *CA*, **90**, 124646t (*use*)Ger. Pat., 2 833 943, (1979); *CA*, **91**, 57173s (*synth*, *props*)C₁₄H₂₁BO₂

B-00902

7-Methylene-3-borabicyclo[3.3.1]nonyl acetylacetonate

[(5-Methylene-1,3-cyclohexanediyl)bis[methylene]]-(2,4-pentanedionato-O,O')boron, 10Cl

[76069-96-0]



M 232.129

Bright-yellow cryst. (hexane). Mp 54-60°.

Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (*cmr*, *synth*)Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (*cmr*, *struct*)Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312 (*synth*, *ir*, *pmr*)C₁₄H₂₂BN

B-00903

9-Borabicyclo[3.3.1]nonane 2-methylpyridine

1,5-Cyclooctanediylhydro(2-methylpyridine)boron, 10Cl,

9Cl. 2-Methylpyridine, compd. with 9-borabicyclo[3.3.1]-nonane(1:1). 9-BBN α-picoline complex

[70338-10-2]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with

L = 2-methylpyridine

M 215.145

ca. 91% associated as a 0.13 molar soln. in cyclohexane.

Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1979, **98**, 117 (*synth*)Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 1748 (*cmr*, *props*)C₁₄H₂₂BN

B-00904

9-Borabicyclo[3.3.1]nonane 4-methylpyridine

1,5-Cyclooctanediylhydro(4-methylpyridine)boron, 10Cl,

9Cl. 4-Methylpyridine, compd. with 9-borabicyclo[3.3.1]-nonane(1:1). 9-BBN γ-picoline complex

[64045-94-9]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with

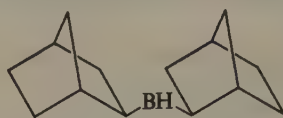
L = 4-methylpyridine

M 215.145

Shows selective reducing props. Cryst. (CHCl₃/pentane); stable for several hr. in air. Mp 116-7°.Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 3090 (*nmr*, *props*)

C₁₄H₂₃B

Bis(bicyclo[2.2.1]hept-2-yl)borane, 10Cl
Di-2-norbornylborane, 8Cl



M 202.146

Uncomplexed material would exist as the H-bridged dimer.

exo,exo-form [34239-26-4]

Intermed. in hydroboration of norbornene with BH₃. Air- and moisture-sensitive. Sol. THF.

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1971, **32**, C1 (*synth*)

Taniguchi, H., *Bull. Chem. Soc. Jpn.*, 1979, **52**, 2946.

Taniguchi, H., *Nippon Kagaku Kaishi*, 1979, **10**, 906; *CA*, **91**, 210504x.

B-00905

THF complex: [63220-86-0].

C₁₈H₃₁BO M 274.252

Cryst. (pentane), air-sensitive but stable indefinitely under N₂.

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **131**, 163 (*synth*, *nmr*)

Molander, G.A. *et al*, *J. Org. Chem.*, 1977, **42**, 3106 (*synth*)

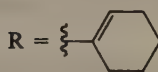
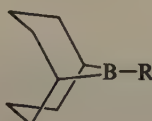
Sinclair, J.A. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 954 (*synth*)

Molander, G.A. *et al*, *Synthesis*, 1979, 104.

Whiteley, C.G. *et al*, *S. Afr. J. Chem.*, 1982, **35**, 9 (*synth*)

C₁₄H₂₃B

9-(1-Cyclohexen-1-yl)-9-borabicyclo[3.3.1]nonane, 10Cl
[74142-79-3]



M 202.146

Synthetic intermed. Sensitive to air.

Miyaura, N. *et al*, *Tetrahedron Lett.*, 1980, **21**, 537.

B-00906

C₁₄H₂₃B

9-(3,3-Dimethyl-1-butynyl)-9-borabicyclo[3.3.1]nonane, 10Cl
9-(tert-Butylethynyl)-9-BBN
[62276-26-0]

As 9-(1-Cyclohexen-1-yl)-9-borabicyclo[3.3.1]nonane, B-00906 with



M 202.146

Synthetic intermed. Sensitive to air.

THF complex: [63220-87-1].

C₁₈H₃₁BO M 274.252

Cryst. (pentane), air-sensitive but stable indefinitely under N₂.

Molander, G.A. *et al*, *J. Org. Chem.*, 1977, **42**, 3106.

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **131**, 163 (*synth*, *nmr*)

Sinclair, J.A. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 954 (*synth*)

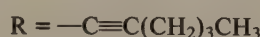
Molander, G.A. *et al*, *Synthesis*, 1979, 104.

B-00907

C₁₄H₂₃B

9-(1-Hexynyl)-9-borabicyclo[3.3.1]nonane, 10Cl
B-(1-Hexynyl)-9-BBN
[62459-81-8]

As 9-(1-Cyclohexen-1-yl)-9-borabicyclo[3.3.1]nonane, B-00906 with



M 202.146

Synthetic intermed. Sensitive to air.

B-00908

C₁₄H₂₃BCIN

Chloro(dibutylamino)phenylborane, 8Cl

N,N-Dibutyl-1-chloro-1-phenylboranamine, 10Cl
[33441-67-7]



M 251.605

Air- and moisture-sensitive liq. Bp_{0.1} 75°.

Imberry, D. *et al*, *Org. Magn. Reson.*, 1970, **2**, 271 (*nmr*)

Sheikh, S.U., *Bull. Chem. Soc. Jpn.*, 1976, **49**, 2879.

Cragg, R.H. *et al*, *J. Organomet. Chem.*, 1981, **217**, 1.

Brown, C. *et al*, *J. Organomet. Chem.*, 1981, **220**, C25 (*cmr*)

Cragg, R.H. *et al*, *J. Organomet. Chem.*, 1982, **232**, 201 (*pmr*, *synth*)

B-00909

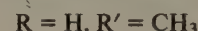
C₁₄H₂₃BO₂

7-Methyl-3-borabicyclo[3.3.1]nonyl acetylacetonate

[(5-Methyl-1,3-cyclohexanediyl)bis[methylene]](2,4-pentanedionato-O,O')boron, 10Cl

[76069-98-2]

As 7-Methylene-3-borabicyclo[3.3.1]nonyl acetylacetonate, B-00902 with



M 234.145

Bright-yellow cryst. solid (hexane). Mp 104-8°.

Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (*cmr*, *synth*)

Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, **341**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (*cmr*, *struct*)

Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, **394**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312 (*synth*, *pmr*, *ir*)

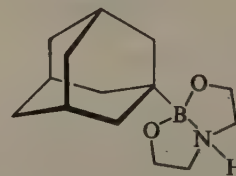
B-00910

C₁₄H₂₄BNO₂

2-Adamantyl-6-aza-1,3-dioxo-2-boracyclooctane

[[2,2'-Iminobis(ethanolato)](2-)-N,O,O']-tricyclo[3.3.1.1^{3,7}]dec-1-ylboron, 10Cl. 1-Adamantylboric acid diethanolamine ester

[79217-35-9]



M 249.159

Fine, colourless cryst. Stable in air. Mp 288.5-290°.

Shchegoleva, T.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 1098; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 858 (*synth*)

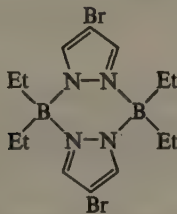
B-00911

C₁₄H₂₄B₂Br₂N₄

B-00912

Bis[(4-bromo-1-pyrazolyl)diethylborane]

Bis[μ-(4-bromo-1H-pyrazolato-N¹:N²)]tetraethyldi-boron, 10Cl. 2,6-Dibromo-4,4,8,8-tetraethyl-4H,4H,8H,8H-7a,8a-diaza-3a,4a-diazonia-4,8-diborata-s-indacene, 8Cl
[14695-71-7]



M 429.798

Cryst. (EtOH). Mp 127-8°.

Trofimenko, S., *J. Am. Chem. Soc.*, 1966, **88**, 1842 (*synth*)Trofimenko, S., *J. Am. Chem. Soc.*, 1967, **89**, 3165 (*synth*, *pmr*, *nmr*)Holt, E.M. *et al*, *Acta Crystallogr., Sect. B*, 1977, **33**, 1986 (*cryst struct*)May, C.E. *et al*, *Z. Naturforsch., B*, 1978, **33**, 220 (*uv*, *nmr*)C₁₄H₂₅B

B-00913

9-Cyclohexyl-9-borabicyclo[3.3.1]nonane, 10Cl

B-Cyclohexyl-9-BBN

[53535-83-4]

As 9-(1-Cyclohexen-1-yl)-9-borabicyclo[3.3.1]nonane, B-00906 with

R = cyclohexyl

M 204.162

Useful reagent for transfer of a cyclohexyl group.

Sensitive to air.

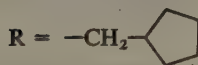
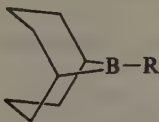
Prager, R.H. *et al*, *Aust. J. Chem.*, 1974, **27**, 1457.Levy, A.B., *J. Org. Chem.*, 1978, **43**, 4684.Midland, M.M. *et al*, *J. Organomet. Chem.*, 1978, **156**, 203.Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 4067.Levy, A.B. *et al*, *Synthesis*, 1980, 945.Slayden, S.W., *J. Org. Chem.*, 1981, **46**, 2311 (*synth*)C₁₄H₂₅B

B-00914

9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, 10Cl

B-(Cyclopentylmethyl)-9-BBN

[74763-89-6]



M 204.162

Sensitive to air.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 4067 (*synth*)Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 647.C₁₄H₂₅B

B-00915

9-(3,3-Dimethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane, 10Cl

9-(tert-Butylethenyl)-9-BBN

[79073-86-2]

As 9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B-00914 with

R = $-\text{CH}=\text{CHC}(\text{CH}_3)_3$

M 204.162

Formed *in situ* by hydroboration of *tert*-butylethyne with 9-BBN. Synthetic intermed. Sensitive to air.

(E)-form [69322-47-0]

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 96 (*synth*)Singaram, B. *et al*, *Heterocycles*, 1981, **15**, 231.Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 645.Hartner, F.W. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 4979.C₁₄H₂₅B

B-00916

9-(1-Ethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane, 10Cl

9-(3-Hexen-3-yl)-9-borabicyclo[3.3.1]nonane. B-(3-Hexen-3-yl)-9-BBN

As 9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B-00914 with

R = $-\text{C}(\text{CH}_2\text{CH}_3)=\text{CHCH}_2\text{CH}_3$

M 204.162

(E)-form [76036-41-4]

Air-sensitive.

(Z)-form [69322-51-6]

Prepd. by hydroboration of 3-hexyne with 9-BBN.

Synthetic reagent, generally prepd. *in situ*. Air-sensitive.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 96.Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 645.C₁₄H₂₅B

B-00917

9-(1-Hexenyl)-9-borabicyclo[3.3.1]nonane, 10Cl

B-(1-Hexenyl)-9-BBN

[74142-78-2]

As 9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B-00914 with

R = $-\text{CH}=\text{CH}(\text{CH}_2)_3\text{CH}_3$

M 204.162

(E)-form [69322-45-8]

Synthetic reagent, generally prepd. *in situ* by hydroboration of 1-hexyne with 9-BBN. Air-sensitive. Bp_{0.01} 52-5°.

(Z)-form [67826-85-1]

Air-sensitive.

Campbell, J.B. *et al*, *J. Organomet. Chem.*, 1978, **156**, 71; 1980, **45**, 549.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 96.Yatagai, H. *et al*, *J. Org. Chem.*, 1979, **44**, 2566 (*pmr*)Miyaura, N. *et al*, *Tetrahedron Lett.*, 1980, **21**, 537.Singaram, B. *et al*, *Heterocycles*, 1981, **15**, 231.C₁₄H₂₅B

B-00918

9-(4-Hexenyl)-9-borabicyclo[3.3.1]nonane, 10Cl

B-(4-Hexenyl)-9-BBN

[69362-75-0]

As 9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B-00914 with

R = $-(\text{CH}_2)_3\text{CH}=\text{CHCH}_3$

M 204.162

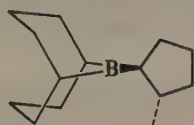
Sensitive to air.

Hara, S. *et al*, *Tetrahedron Lett.*, 1978, 2891.

C₁₄H₂₅B

B-00919

9-(2-Methylcyclopentyl)-9-borabicyclo[3.3.1]nonane, 10Cl
B-(2-Methylcyclopentyl)-9-BBN



M 204.162

Reagent for transfer of a 2-methylcyclopentyl group.

trans-form [63942-79-0]

Generally prepd. *in situ* by hydroboration of 1-methylcyclopentene with 9-BBN. Synthetic intermed.
Air-sensitive.

Midland, M.M. *et al*, *J. Organomet. Chem.*, 1977, **134**, C17;

1978, **156**, 203; 1979, **182**, C53.

Brown, H.C. *et al*, *Synthesis*, 1979, 701.

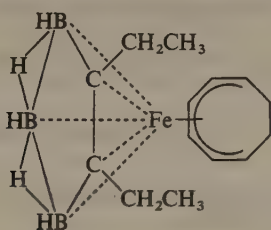
Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 4067.

Midland, M.M. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 528 (*synth*)

C₁₄H₂₅B₃Fe

B-00920

[(1,2,3,4,5,6-η)-1,3,5-Cyclooctatriene][(1,2,3,4,5-η)-pentahydro-1,2-diethyl-1,2-dicarbabpentaborato(2-)]iron
[84582-97-8]



M 281.629

Red oil.

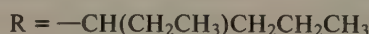
Swisher, R. *et al*, *Organometallics*, 1983, **2**, 506 (*synth*, *pmr*, *cmr*, *nmr*, *ms*)

C₁₄H₂₇B

B-00921

9-(3-Hexyl)-9-borabicyclo[3.3.1]nonane
9-(1-Ethylbutyl)-9-borabicyclo[3.3.1]nonane, 10Cl. B-(3-Hexyl)-9-BBN
[78964-99-5]

As 9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B-00914 with



M 206.177

Prepd. *in situ* by hydroboration of 3-hexene with 9-BBN.
Synthetic reagent for transfer of a 3-hexyl group.
Sensitive to air.

Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 4313.

C₁₄H₂₇B

B-00922

9-Hexyl-9-borabicyclo[3.3.1]nonane, 10Cl, 9Cl
B-Hexyl-9-BBN

[42371-64-2]

As 9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B-00914 with



M 206.177

Reagent for transfer of a hexyl group. Sensitive to air.

Naruse, M. *et al*, *Tetrahedron*, 1974, **30**, 2159.

Brown, H.C. *et al*, *Synthesis*, 1979, 701.

Ncube, S. *et al*, *Tetrahedron Lett.*, 1979, 1893.

Marinelli, E.R. *et al*, *Tetrahedron Lett.*, 1979, 2313.

Bestmann, H.J. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1981, **20**, 1038 (*synth*)

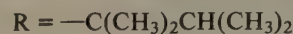
C₁₄H₂₇B

B-00923

B-Thexyl-9-borabicyclo[3.3.1]nonane
9-(1,1,2-Trimethylpropyl)-9-borabicyclo[3.3.1]nonane, 10Cl, 9Cl. 9-(2,3-Dimethyl-2-butyl)-9-borabicyclo[3.3.1]nonane. B-Thexyl-9-BBN

[17304-18-6]

As 9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B-00914 with



M 206.177

Liq., sensitive to air. Bp_{0.4} 93-4°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 3567 (*glc*)

Midland, M.M. *et al*, *J. Organomet. Chem.*, 1977, **134**, C17; 1978, **156**, 203.

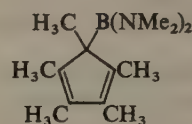
Brown, C.A. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 3964.

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*nmr*)

C₁₄H₂₇BN₂

B-00924

Bis(dimethylamino)(1,2,3,4,5-pentamethyl-2,4-cyclopentadienyl)borane
N,N,N',N'-Tetramethyl-1-(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)boranediamine, 10Cl
[60828-64-0]



M 234.191

Static struct. at 40°, unlike many cyclopentadienylboron compds. Colourless viscous liq., sensitive to air and moisture. Sol. non-hydroxylic solvs. Bp_{0.05} 74°.

Jutzi, P. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, **16**, 41 (*synth*, *pmr*, *ms*)

Jutzi, P. *et al*, *Chem. Ber.*, 1979, **112**, 2481 (*synth*, *struct*, *nmr*)

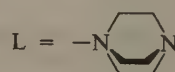
C₁₄H₂₇BN₂

B-00925

9-Borabicyclo[3.3.1]nonane 1,4-diazabicyclo[2.2.2]octane 1,5-Cyclooctanediyl(1,4-diazabicyclo[2.2.2]octane-N¹)hydroboron, 10Cl. 9-BBN-DABCO. 1,4-Diazabicyclo[2.2.2]octane, compd. with 9-borabicyclo[3.3.1]nonane(1:1)

[70338-09-9]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with



M 234.191

Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1979, **98**, 117.

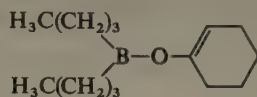
C₁₄H₂₇BO

B-00926

Dibutyl(1-cyclohexenyloxy)borane

Dibutylborinic acid 1-cyclohexen-1-yl ester, 10Cl, 8Cl. 1-Cyclohexenyl dibutylborinate

[17814-54-9]



M 222.177

Air- and moisture-sensitive liq. d_{20}^{20} 0.862. Bp₁ 73-4°. n_D^{20} 1.4558.

Ponomarev, S.V. *et al*, *Zh. Obshch. Khim.*, 1967, **37**, 2204 (synth, ir, nmr)

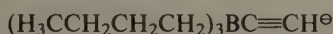
Evans, D.A. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 6120 (props)

Evans, D.A. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 3099 (props)

C₁₄H₂₈B⁺

B-00927

Tributylethynylborate(1-), 10Cl, 9Cl



M 207.185 (ion)

Li salt: [57088-67-2].

C₁₄H₂₈B⁺Li M 214.126

Synth. intermed. Air- and acid-sensitive. Sol. non-hydroxylic solvs.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 5017 (use)

Midland, M.M. *et al*, *J. Org. Chem.*, 1975, **40**, 2845 (use)

Utimoto, K. *et al*, *Tetrahedron Lett.*, 1976, 3969 (use)

C₁₄H₂₈B⁺

B-00928

9-(1,1,2-Trimethylpropyl)-9-boratabicyclo[3.3.1]nonane, 10Cl B-Thexyl-9-BBN hydride

As 9-Boratabicyclo[3.3.1]nonane, B-00546 with



M 207.185 (ion)

Li salt: [74365-24-5].

C₁₄H₂₈B⁺Li M 214.126

Air- and moisture-sensitive.

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (synth, nmr)

C₁₄H₂₉B₉Fe

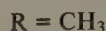
B-00929

[(1,2,3,4,5,6-η)-Hexamethylbenzene][(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron 3,1,2-(η⁶-Hexamethylbenzene)-FeC₂B₉H₁₁

[82704-19-6]

As [(1,2,3,4,5,6-

η)-1,3,5-Trimethylbenzene][(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron, B-00746 with



M 350.520

Reddish-orange cryst. (C₆H₆/heptane). Mp 299-302° dec.

Hanusa, T.P. *et al*, *Polyhedron*, 1981, **1**, 77 (synth, pmr, ir, nmr)

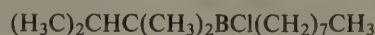
C₁₄H₃₀BCl

B-00930

Chlorooctyl(1,1,2-trimethylpropyl)borane, 10Cl

Chloro(2,3-dimethyl-2-butyl)octylborane. Thexyloctylchloroborane. Chlorooctylthexylborane

[75052-81-2]



M 244.654

Prepd. *in situ* by reaction of thexylchloroborane with 1-octene. Synthetic intermed. Prob. oil, sensitive to air and moisture. Sol. non-hydroxylic solvs.

Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1980, **102**, 5919 (synth, use)

C₁₄H₃₀BN

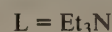
B-00931

9-Borabicyclo[3.3.1]nonane triethylamine

1,5-Cyclooctanediyl(N,N-diethylethanamine)hydroboron, 10Cl. N,N-Diethylethanamine, compd. with 9-borabicyclo[3.3.1]nonane (1:1). 9-BBN triethylamine complex

[64045-92-7]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with



M 223.208

Partially dissociated in soln.

Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 3090 (nmr)

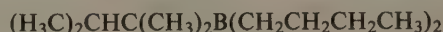
C₁₄H₃₁B

B-00933

Dibutyl(1,1,2-trimethylpropyl)borane, 10Cl, 9Cl

Dibutyl(2,3-dimethyl-2-butyl)borane. Dibutylthexylborane. Thexyldibutylborane

[42928-38-1]



M 210.209

Prepd. *in situ* by the hydroboration of 1-butene with thexylborane. Synthetic intermed. Prob. oil, sensitive to air. Sol. THF.

Brown, H.C. *et al*, *J. Org. Chem.*, 1973, **38**, 3968 (synth, use)

Miyaura, N. *et al*, *Tetrahedron Lett.*, 1974, 2961 (synth)

Negishi, E. *et al*, *Synthesis*, 1974, 77 (synth)

Pelter, A. *et al*, *Tetrahedron Lett.*, 1975, 1633 (use)

Slayden, S.W. *et al*, *J. Org. Chem.*, 1981, **46**, 2311 (synth, use)

C₁₄H₃₁BN₂

B-00934

9-Borabicyclo[3.3.1]nonane tetramethylethylenediamine

1,5-Cyclooctanediylhydro(N,N,N',N'-tetramethyl-1,2-ethanediamine-N)boron, 10Cl. N,N,N',N'-Tetramethyl-1,2-ethanediamine, compd. with 9-borabicyclo[3.3.1]nonane (1:1). 9-BBN TMEDA complex

[64045-93-8]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with



M 238.222

Mobile equilibrium between complexed and uncomplexed species in soln.

Brown, H.C. *et al*, *Inorg. Chem.*, 1977, **16**, 3090 (*synth, nmr*)

C₁₄H₃₁BO

B-00935

Butoxydipentylborane

Dipentylborinic acid butyl ester, 10Cl, 8Cl.

Dipentyl(butoxy)borane

[3027-55-2]



M 226.208

Air- and moisture-sensitive. Sol. nonhydroxylic solvs.

Laurent, J.-P., *Bull. Soc. Chim. Fr.*, 1963, 558 (*synth*)

Baudet, J. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1967, **264B**, 1090 (*props*)

Tsvetkov, V.G. *et al*, *Zh. Obshch. Khim.*, 1979, **49**, 2406 (*props*)

Alyasov, V.N. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 362.

C₁₄H₃₁BO

B-00936

Dibutyl(hexyloxy)borane

Dibutylborinic acid hexyl ester, 10Cl

[67682-99-9]



M 226.208

Air- and moisture-sensitive liq. Bp₃ 88-90°. *n*_D²⁰ 1.4281.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1385 (*synth, nmr*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1392 (*props*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth, nmr*)

C₁₄H₃₁BO₂

B-00937

Dibutoxyhexylborane

Hexylboronic acid dibutyl ester, 10Cl. 1-Hexaneboronic acid dibutyl ester, 8Cl. Dibutyl hexaneboronate

[3089-96-1]



M 242.208

Used to stabilize polyacrylonitrile. Air- and moisture-sensitive liq. Sol. non-hydroxylic solvs. *d*₂₀ 0.828. Bp₂₁ 145°, Bp₃ 98-100°. *n*_D²⁰ 1.4231.

Laurent, J.P., *C.R. Hebd. Seances Acad. Sci.*, 1961, **253**, 1812 (*synth, props*)

Gallais, F. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1964, **259**, 4262 (*props*)

Japan. Pat., 65 9 629, (1965); *CA*, **63**, 18376f

Baudet, J. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1967, **264**, 1090 (*props*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1586; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1385 (*synth, nmr*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth, props, nmr*)

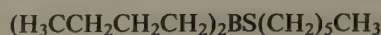
C₁₄H₃₁BS

B-00938

Dibutyl(hexylthio)borane

Dibutylthioborinic acid hexyl ester, 10Cl

[67682-97-7]



M 242.269

Air- and moisture-sensitive liq. Bp₂ 127-8°. *n*_D²⁰ 1.4618.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1392 (*synth, props, nmr*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*synth, nmr*)

C₁₄H₃₃BN₂

B-00939

2,4,4-Trimethyl-3-pentylborane tetramethylethylenediamine [2,2-Dimethyl-1-(1-methylethyl)propyl]dihydro-(N,N,N',N'-tetramethyl-1,2-ethanediamine-N)boron, 10Cl. N,N,N',N'-Tetramethyl-1,2-ethanediamine, compd. with [2,2-dimethyl-1-(1-methylethyl)propyl]-borane(1:1). DIB-borane TMEDA

[67826-88-4]



M 240.238

Convenient storage for the useful monoalkylborane, DIB-borane. Stable cryst. (pentane). Mp 92-5°. Dec. slowly in THF soln.

Singaram, B. *et al*, *J. Organomet. Chem.*, 1978, **156**, C1 (*synth*)
Brown, H.C. *et al*, *Inorg. Chem.*, 1979, **18**, 51 (*synth, pmr, nmr*)

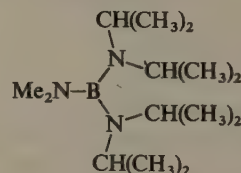
C₁₄H₃₄BN₃

B-00940

Dimethylaminobis(diisopropylamino)borane

N,N-Dimethyl-N',N'',N'''-tetrakis(1-methylethyl)-boranetriamine, 10Cl. Bis(diisopropylamino)-(dimethylamino)borane

[61134-33-6]



M 255.253

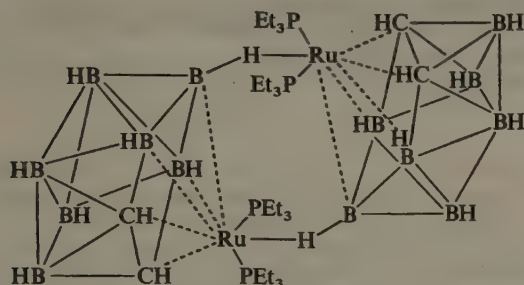
Characterised spectroscopically. Probably liq., sensitive to moisture.

Nöth, H. *et al*, *Chem. Ber.*, 1968, **101**, 969.

Nöth, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 23.

Curry, K.K. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 8262; 1978, **100**, 1442 (*nmr, props*)

C₁₄H₃₉B₇P₂Ru **B-00941**
 $[\eta^6\text{-Nonahydrodicarbanonaborato}(2-)\text{-B,H}]\text{bis}(\text{triethylphosphine})\text{ruthenium}, 10\text{Cl}$
 hyper-closo-6,6-Bis(triethylphosphine)-6,2,3-RuC₂B-7H₉



M 446.150
 Dimeric.

Dimer: [76798-39-5]. Bis[μ-[η⁶-nonahydrodicarbanonaborato(2-)-B,H]]tetrakis(triethylphosphine)diruthenium, 10Cl.

C₂₈H₇₈B₁₄P₄Ru₂ M 892.299

Large blue-black or small bright-green cryst. (toluene/pentane).

Jung, C.W. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 810 (*synth*, *nmr*, *pmr*, *ir*)

C₁₅H₁₀BF₆N **B-00942**
 1,1-Diphenyl-N-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]boranamine, 10Cl, 9Cl
 Diphenyl[[trifluoro-1-(trifluoromethyl)ethylidene]amino]borane, 8Cl
 [29215-41-6]



M 329.051

Cryst. (C₆H₆), moisture-sensitive. Bp₂₂ 110°.

Niedenzu, K. *et al*, *Tetrahedron Lett.*, 1970, **28**, 2441 (*ms*, *ir*, *synth*)

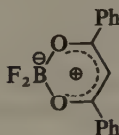
Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1977, **132**, 29 (*cmr*)

Emerick, D.P. *et al*, *J. Organomet. Chem.*, 1978, **153**, 9 (*ir*, *nmr*)

C₁₅H₁₁BF₂O₂ **B-00943**
 (1,3-Diphenyl-1,3-propanedionato-O,O')difluoroboron, 10Cl, 9Cl

Difluoroboryl 1,3-diphenyl-1,3-propanedionate. Difluoro(1,3-diphenyl-1,3-propanedionato)boron

[14947-61-6]



M 272.058

Light-yellow solid by subl. Mp 197° (193-4°).

▷ED7560000.

Toporcer, R.E. *et al*, *Inorg. Chem.*, 1965, **4**, 1649 (*synth*, *ir*, *nmr*)

Smith, J.A.S. *et al*, *J. Chem. Soc. (A)*, 1966, 1749 (*nmr*)

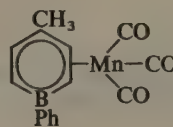
Dessy, R.E. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 2005.

Trestianu, A. *et al*, *Tetrahedron*, 1968, **24**, 2499 (*pmr*)

Brown, N.M.D., *J. Chem. Soc. (A)*, 1969, 526 (*synth*, *ir*, *uv*, *nmr*)

Neptyuev, V.M. *et al*, *Zh. Org. Khim.*, 1980, **16**, 2558 (*synth*, *spectra*)

C₁₅H₁₂BMnO₃ **B-00944**
 Tricarbonyl[(1,2,3,4,5,6-η)-4-methyl-1-phenylboratabenzene]manganese, 10Cl
 [62980-54-5]

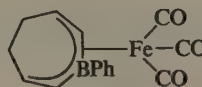


M 306.006

Yellow cryst. Mp 73-5°.

Herberich, G.E. *et al*, *Chem. Ber.*, 1977, **110**, 1167 (*synth*, *nmr*)

C₁₅H₁₃BFeO₃ **B-00945**
 Tricarbonyl[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin]iron
 [62479-26-9]

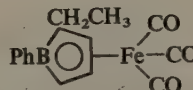


M 307.923

Bright-yellow air-sensitive cryst. (pentane). Mp 64.5-65.5°.

Herberich, G.E. *et al*, *Chem. Ber.*, 1977, **110**, 760 (*synth*, *pmr*, *nmr*, *ir*, *ms*)

C₁₅H₁₃BFeO₃ **B-00946**
 Tricarbonyl[(1,2,3,4,5-η)-2-ethyl-1-phenyl-1H-borole]iron, 10Cl
 [60840-45-1]

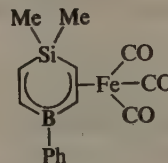


M 307.923

Air- and light-sensitive amber coloured oil. Mp >-30°.

Herberich, G.E. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, **16**, 43 (*synth*, *ms*, *ir*, *pmr*)

C₁₅H₁₅BFeO₃Si **B-00947**
 Tricarbonyl[(2,3,4,5,6-η)-1,1-dimethyl-4-phenyl-1-sila-4-boracyclohexa-2,5-diene]iron, 10Cl
 [62479-25-8]



M 338.024

Pale-yellow cryst. (Et₂O). Mp 99°.

Herberich, G.E. *et al*, *Chem. Ber.*, 1977, **110**, 760 (*synth*, *struct*, *pmr*, *nmr*, *ir*, *ms*)

C₁₅H₁₆BBrClN **B-00948**
 Methyl(2-methyl-4-bromophenyl)aminochloro(2-methylphenyl)borane
 N-(4-Bromo-2-methylphenyl)-1-chloro-N-methyl-1-(2-methylphenyl)boranamine, 10Cl
 [66338-32-7]

As [Methyl(4-bromophenyl)amino]chloro(phenyl)borane, B-00844 with

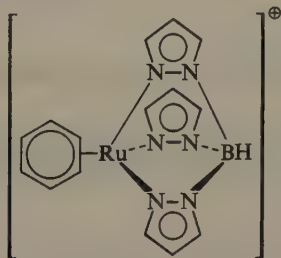
R = CH₃

M 336.465

Air- and moisture-sensitive.

Ziegler, M.L. *et al*, *Z. Naturforsch., B*, 1978, **33**, 200 (*struct*)Friebolin, H. *et al*, *Org. Magn. Reson.*, 1977, **10**, 157 (*synth*, *nmr*)C₁₅H₁₆BN₆Ru⁺

B-00949

(η⁶-Benzene)[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)-*N*²,*N*^{2'},*N*^{2''}][ruthenium(1+), 9Cl

M 392.212 (ion)

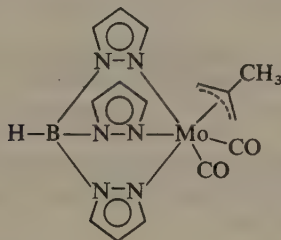
Hexafluorophosphate: [52015-87-9].

C₁₅H₁₆BF₆N₆PRu M 537.176

Yellow cryst.

O'Sullivan, D.J. *et al*, *J. Organomet. Chem.*, 1973, **57**, C58 (*synth*)C₁₅H₁₇BMoN₆O₂

B-00950

Dicarbonyl[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)-*N*²,*N*^{2'},*N*^{2''}][(1,2,3-η-2-methyl-2-propenyl)molybdenum, 9Cl [38834-21-8]

M 420.088

Yellow cryst.

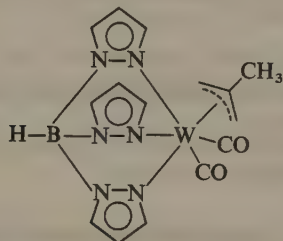
Trofimenko, S. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 588, 3183 (*synth*, *nmr*)Meekin, P. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 5677 (*nmr*)Holt, E.M. *et al*, *J. Chem. Soc., Dalton Trans.*, 1973, 2444 (*cryst struct*)C₁₅H₁₇BN₆O₂W

B-00951

Dicarbonyl[hydrotris(pyrazolato)borato(1-)](η³-2-methylpropenyl)tungsten

Dicarbonyl[hydrotris(pyrazolato)borato(1-)](2-methyl-π-allyl)tungsten, 8Cl

[12242-63-6]



M 507.998

Yellow air-stable cryst.

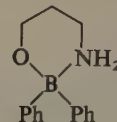
Trofimenko, S., *J. Am. Chem. Soc.*, 1967, **89**, 3904; 1969, **91**, 558 (*synth*, *props*)C₁₅H₁₈BNO

B-00952

(3-Aminopropoxy)diphenylborane

Diphenylborinic acid 3-aminopropyl ester, 10Cl. B,B-Diphenyltetrahydroboroxazine

[1475-88-3]



M 239.123

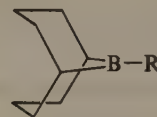
Exists in intramolecularly coordinated cyclic form, as shown. Solid, stable in air. Sol. EtOAc, Me₂CO, MeCN, insol. C₆H₆, Et₂O, H₂O. Mp 190-2°.Weidmann, H. *et al*, *Justus Liebigs Ann. Chem.*, 1958, **619**, 28 (*synth*, *props*)Zimmerman, H.K. *et al*, *Justus Liebigs Ann. Chem.*, 1962, **655**, 54 (*props*)Zimmerman, H.K., *Adv. Chem. Ser.*, 1964, **42**, 23.Hohaus, E. *et al*, *Int. J. Mass Spectrom. Ion Phys.*, 1979, **31**, 113 (*ms*)Mazeika, I. *et al*, *Zh. Obshch. Khim.*, 1979, **49**, 2528 (*ms*)C₁₅H₂₁B

B-00953

9-(4-Methylphenyl)-9-borabicyclo[3.3.1]nonane, 10Cl, 9Cl

9-p-Tolyl-9-borabicyclo[3.3.1]nonane, 8Cl. B-p-Tolyl-9-BBN

[23418-90-8]



M 212.141

Colourless liq., sensitive to air. Bp_{5.5} 155-60°, Bp_{0.05} 72°.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 4304 (*synth*)Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1974, **73**, 1.Ramsey, B.G. *et al*, *J. Organomet. Chem.*, 1977, **141**, 257 (*nmr*, *uv*, *synth*)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*nmr*)C₁₅H₂₁BO

B-00954

3-Methoxy-7-phenyl-3-borabicyclo[3.3.1]nonane, 10Cl

7-Phenyl-3-methoxy-3-borabicyclo[3.3.1]nonane. 7-Phenyl-3-MBBN

[33586-48-0]

As 3-Borabicyclo[3.3.1]nonane, B-00544 with

X = OMe, R = Ph

M 228.140

Exists in double chair form. Air- and moisture-sensitive.

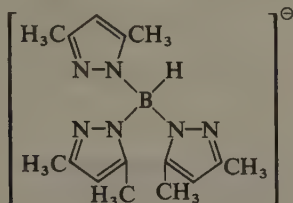
Sol. CHCl₃, CH₂Cl₂.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1971, 1244 (*synth*)Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (*nmr*)Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (*cmr*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312 (props)

C₁₅H₂₂BN₆[⊖] B-00955

Tris(3,5-dimethyl-1*H*-pyrazolato-*N'*)hydroborate(1-), 10Cl,
9Cl

Hydrotris(3,5-dimethyl-1-pyrazolyl)borate



M 297.189 (ion)

Used in metal complex formn.

K salt: [17567-17-8].

C₁₅H₂₂BKN₆ M 336.287

Mp 298-300° dec. Sublimes at 280°/1 mm.

Li salt: [17857-04-4].

C₁₅H₂₂BLiN₆ M 304.130

Cryst. (xylene). Mp 304-5°. Sublimes *in vacuo*.

Trofimenko, S., *J. Am. Chem. Soc.*, 1967, **89**, 6288 (synth)

Trofimenko, S., *Chem. Rev.*, 1972, **72**, 497 (rev)

C₁₅H₂₄BN B-00956

9-Borabicyclo[3.3.1]nonane 2,6-dimethylpyridine
1,5-Cyclooctanediyl(2,6-dimethylpyridine)hydroboron,
10Cl. 2,6-Dimethylpyridine, compd. with 9-
borabicyclo[3.3.1]nonane(1:1). 9-BBN 2,6-
dimethylpyridine

[70338-07-7]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-
00705 with

L = 2,6-dimethylpyridine

M 229.171

Complex shown to be completely dissociated into its
components in cyclohexane soln.

Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1979, **98**, 117
(synth, props)

C₁₅H₂₄BN B-00957

9-Borabicyclo[3.3.1]nonane 2-ethylpyridine
1,5-Cyclooctanediyl(2-ethylpyridine)hydroboron, 10Cl,
9Cl. 2-Ethylpyridine, compd. with 9-borabicyclo[3.3.1]-
nonane(1:1). 9-BBN 2-ethylpyridine complex

[70338-11-3]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-
00705 with

L = 2-Ethylpyridine

M 229.171

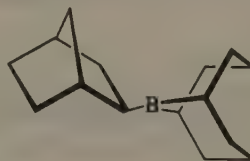
ca. 59% associated as a 0.13 molar soln. in cyclohexane.

Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1979, **98**, 117
(props)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 1748 (cmr, props)

C₁₅H₂₅B B-00958

9-Bicyclo[2.2.1]hept-2-yl-9-borabicyclo[3.3.1]nonane, 10Cl
9-(2-Norbornyl)-9-borabicyclo[3.3.1]nonane



M 216.173

exo-form [67753-91-7]

Reagent for norbornyl group transfers.

Midland, M.M. *et al*, *J. Organomet. Chem.*, 1978, **156**, 203.

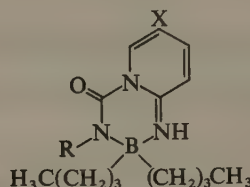
Brown, H.C. *et al*, *Synthesis*, 1979, 701.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 4067 (synth)

C₁₅H₂₅BCIN₃O B-00959

Dibutyl(5-chloro-2-imino-*N*-methyl-1(2*H*)-pyridinecarboxa-
midato-*N*^{N1},*N*^{N2})boron

[71231-69-1]



R = Me, X = Cl

M 309.645

Exists as intramol. coord. complex as shown. Possesses
some antiviral activity. Cryst. (EtOH). Mp 124-5° dec.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
1979, 1085; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1014
(synth, nmr, ir)

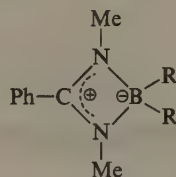
Mikhailov, B.M. *et al*, *Khim.-Farm. Zh.*, 1982, **16**, 695.

C₁₅H₂₅BN₂ B-00960

(*N,N'*-Dimethylbenzenecarboximidamido-*N,N'*)diisopro-
pylboron, 10Cl

(*N,N'*-Dimethylbenzenecarboximidamido-*N,N'*)-
bis(1-methylethyl)boron, 10Cl

[69138-06-3]



R = -CH(CH₃)₂

M 244.186

Liq. Bp₁ 78-83°. ¹¹B nmr -11.0 ppm (CHCl₃, 60°).

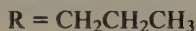
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,
1978, 2578; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2304
(synth, pmr, nmr)

C₁₅H₂₅BN₂ B-00961

(*N,N'*-Dimethylbenzenecarboximidamido-*N,N'*)dipropyl-
boron, 10Cl

[69138-07-4]

As (*N,N'*-Dimethylbenzenecarboximidamido-*N,N'*)diisopropylboron, B-00960 with



M 244.186

Liq. Bp₁ 82-3°. ¹¹B nmr -9, -48 ppm (C₆H₆, 80°).

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2578; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2304 (synth, nmr, pmr)

Dorokov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, 245, 121 (synth)

C₁₅H₂₅BN₂S

B-00962

Diethyl(*N,N*-diethyl-*N'*-phenylthioureato)borane (*N,N*-Diethyl-*N'*-phenylthioureato-*N',S*)diethylboron, 10Cl

[73768-04-4]

As (*N,N*-Diethyl-*N'*-phenylthioureato)dimethylborane, B-00856 with



M 276.246

Formed from the reaction of Et₂NCSNPhSiMe₂ with Et₂BCl.

Marringle, W., *Z. Naturforsch., B*, 1980, 35, 164 (synth)

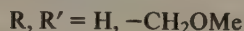
C₁₅H₂₅BO₃

B-00963

7-Methoxymethyl-3-borabicyclo[3.3.1]nonyl acetylacetonate [[5-(Methoxymethyl)-1,3-cyclohexanediyl]bis[methylene]](2,4-pentanedionato-O,O')boron

[76069-97-1]

As 7-Methylene-3-borabicyclo[3.3.1]nonyl acetylacetonate, B-00902 with



M 264.171

Bright-yellow cryst. (hexane). Mp 95-6°.

Gurskii, M.E. *et al*, *J. Organomet. Chem.*, 1980, 199, 171 (cmr, synth)

Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (cmr, struct)

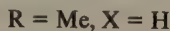
Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312 (synth, ir, pmr)

C₁₅H₂₆BN₃O

B-00964

Dibutyl(2-imino-*N*-methyl-1(2*H*)-pyridinecarboxamidato-*N,N'*,*N''*)boron, 10Cl [70469-68-0]

As Dibutyl(5-chloro-2-imino-*N*-methyl-1(2*H*)-pyridinecarboxamidato-*N,N'*,*N''*)boron, B-00959 with



M 275.200

Exists as an intramol. coord. complex. Shows some antiviral activity. Cryst. (hexane); stable in air or EtOH. Sol. THF, Et₂O, CHCl₃. Mp 148-9°.

Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, 245, 121 (synth)

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1085; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1014 (synth, ir, nmr)

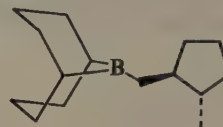
Lagutkin, N.A. *et al*, *Khim. Farm. Zh.*, 1982, 16, 695.

C₁₅H₂₇B

B-00965

9-[(2-Methylcyclopentyl)methyl]-9-borabicyclo[3.3.1]nonane, 10Cl

B-[(2-Methylcyclopentyl)methyl]-9-BBN



M 218.188

trans-form [74763-94-3]

Formed *in situ* by homologation of 9-(2-Methylcyclopentyl)-9-borabicyclo[3.3.1]nonane, B-00919. Air-sensitive.

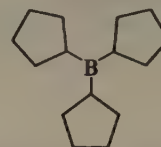
Brown, H.C. *et al*, *J. Org. Chem.*, 1980, 45, 4067; 1981, 46, 647.

C₁₅H₂₇B

B-00966

Tricyclopentylborane, 10Cl, 9Cl, 8Cl

[23985-40-2]



M 218.188

Prepd. by hydroboration of cyclopentene. Synthetic intermed., generally prepd. *in situ*, for transfer of a cyclopentyl group. Liq., sensitive to air. Sol. THF. Bp₂ 118-9°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1962, 84, 1478 (synth)

Takahashi, Y. *et al*, *Chem. Lett.*, 1977, 999 (use)

Tokuda, M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 690 (use)

Akimoto, I. *et al*, *Synthesis*, 1979, 146 (use)

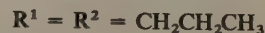
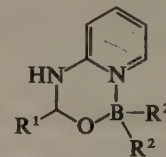
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 855; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 799 (props)

Sotoyama, T. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, 52, 1865 (use)

C₁₅H₂₇BN₂O

B-00967

Dipropyl[1-(2-pyridinylamino)-1-butanolato]boron, 10Cl
Dipropylboryl-[2-(α-hydroxybutyl)aminopyridinate]
[64167-75-5]



M 262.201

Cryst., thermally and chemically unstable. Mp >85° dec.

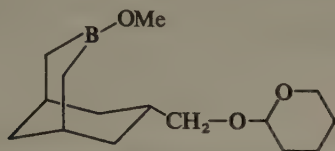
Dorokov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1587; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1458 (synth, nmr, ir, ms)

Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 80; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 70 (ms)

C₁₅H₂₇BO₃

B-00968

3-Methoxy-7-[[[(tetrahydro-2H-pyran-2-yl)oxy]methyl]-3-borabicyclo[3.3.1]nonane, 10Cl
 7-[[[(Tetrahydro-2H-pyran-2-yl)oxy]methyl]-3-methoxy-3-borabicyclo[3.3.1]nonane. 7-[[[(Tetrahydro-2H-pyran-2-yl)oxy]methyl]-3-MBBN
 [72890-45-0]



M 266.187

Air- and moisture-sensitive. Bp_{1.0} 113.5-114°. n_D²⁰ 1.4944.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 2729; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2537 (synth, pmr)Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312.C₁₅H₂₈B⁺

B-00969

9-Butyl-9-(2-propenyl)-9-boratabicyclo[3.3.1]nonane, 10Cl
 9-Butyl-9-allyl-9-boratabicyclo[3.3.1]nonane
 As 9-Boratabicyclo[3.3.1]nonane, B-00546 with



M 219.196 (ion)

Li salt: [68046-28-6].

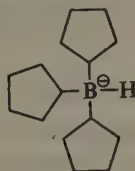
C₁₅H₂₈B⁺Li⁻ M 226.137

Air- and (probably) moisture-sensitive.

Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 6282.Yamamoto, Y. *et al*, *Tetrahedron Lett.*, 1980, **21**, 3599 (cmr)C₁₅H₂₈B⁺

B-00970

Tricyclopentylhydroborate(1-), 10Cl
 Tricyclopentylborohydride



M 219.196 (ion)

Li salt: [61721-97-9].

C₁₅H₂₈B⁺Li⁻ M 226.137Not isolated in pure, solvent-free state. Prepd. *in situ* as THF soln. Stereoselective reducing agent. Air- and moisture-sensitive.

Na salt: [67276-05-5].

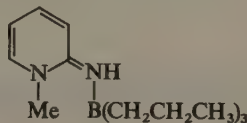
C₁₅H₂₈B⁺Na⁻ M 242.186Prepd. *in situ* as THF soln. Stereoselective reducing agent. Air- and moisture-sensitive. Sol. THF.

K salt: [63706-76-3].

C₁₅H₂₈B⁺K⁻ M 258.295Prepd. *in situ* as THF soln. Stereoselective reducing agent. Air- and moisture-sensitive. Sol. THF.Indefinitely stable under dry N₂.U.S.P., 3 974 183, (1976); *CA*, **86**, 72219b (synth, use)
 Strouf, O. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 391 (props)Brown, C.A. *et al*, *J. Organomet. Chem.*, 1978, **156**, 111 (synth, ir, nmr)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 3343 (synth, ir, nmr)Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 467, 5004 (nmr, ir, use)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **166**, 271; 1980, **188**, 1 (synth, nmr, ir)C₁₅H₂₉BN₂

B-00971

(1-Methyl-2(1H)-pyridinimine-N²)tripropylboron, 10Cl
 1-Methyl-2(1H)-pyridinimine compd. with tripropylborane (1:1), 9Cl. 2-Imino-1-methyl-1,2-dihydropyridine tripropylborane
 [60334-09-0]

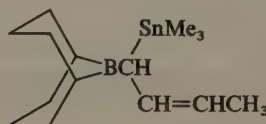


M 248.218

Dorokhov, V.A. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 1057.Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1593; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1464.C₁₅H₂₉BSn

B-00972

9-[1-(Trimethylstannyl)-2-butenyl]-9-borabicyclo[3.3.1]nonane, 10Cl
 α -Stannylcrotyl-9-borabicyclo[3.3.1]nonane
 [79154-10-2]



M 338.894

Prepd. *in situ*. Reagent for the stereoregulated synth. of acrylic systems. Air-sensitive.Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 3229 (use)C₁₅H₃₀BCl

B-00973

(5-Chloro-1-pentenyl)bis(1,2-dimethylpropyl)borane, 10Cl
 (5-Chloro-1-pentenyl)bis(3-methyl-2-butyl)borane.
 (5-Chloro-1-pentenyl)disiamylborane
 [66315-09-1]



M 256.665

Prepd. *in situ* from 5-chloro-1-pentyne with disiamylborane. Synthetic intermed. Prob. oil, sensitive to air. Sol. non-hydroxylic solvs.Yatagai, H. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 852 (synth, use)Campbell, J.B. *et al*, *J. Organomet. Chem.*, 1978, **156**, 71 (nmr, synth)Yatagai, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1670 (synth, use)C₁₅H₃₀BN

B-00974

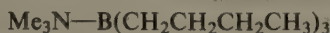
1-Boratricyclo[3.3.1.1^{3,7}]decane triethylamine
 [1,3,5-Cyclohexanetriyltris(methylene)](N,N-diethylethanamine)boron, 10Cl. N,N-Diethylethanamine compd. with 1-boratricyclo[3.3.1.1^{3,7}]decane (1:1), 9Cl. 1-Boraadamantane triethylamine
 [55967-65-2]
 Et₃N complex of B-00597

C₁₅H₃₆BN

B-00981

Tributylborane trimethylamine

Tributyl(N,N-dimethylmethanamine)boron, 10Cl. N,N-Dimethylmethanamine compd. with tributylborane(1:1) [62685-92-1]



M 241.266

Costes, J.P. *et al*, *J. Chim. Phys. Phys. Chim. Biol.*, 1976, **73**, 16.

C₁₆H₈BBr₄S₄[−]

B-00982

Tetrakis(5-bromo-2-thienyl)borate(1−), 10Cl



M 658.905 (ion)

Cs salt: [70177-29-6].

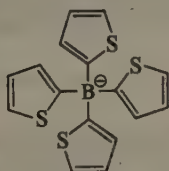
C₁₆H₈BBr₄CsS₄ M 791.811

Analytical reagent. No phys. props. reported.

Pacey, G.E. *et al*, *Anal. Chim. Acta*, 1979, **105**, 353 (*synth*)Pacey, G. *et al*, *Talanta*, 1980, **27**, 1013 (*nmr*)C₁₆H₁₂BS₄[−]

B-00983

Tetra-2-thienylborate(1−), 10Cl



M 343.321 (ion)

Cs salt: [70177-26-3].

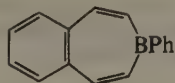
C₁₆H₁₂BCsS₄ M 476.226Nmr shift reagent. Cryst. (Me₂CO). Mp >300°.Pacey, G.E. *et al*, *Anal. Chim. Acta*, 1979, **105**, 353 (*use, synth, props*)Pacey, G.E. *et al*, *Talanta*, 1980, **27**, 1013 (*nmr, use*)C₁₆H₁₃B

B-00984

3-Phenyl-3H-benzoborepin, 9Cl

3-Phenyl[3]benzoborepin

[16703-13-2]

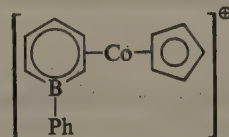


M 216.089

Cryst. Mp 134-7°. λ_{max} 232 (log ε 4.50), 285 (4.68), 301 (4.45), 322 (3.98), 336 (4.22) and 352 nm (4.21) (cyclohexane). Stable in air for several days. Half-life 7 days in cyclohexane.

Leusink, A.J. *et al*, *Tetrahedron Lett.*, 1967, 1263 (*synth, uv, pmr*)Allinger, N.L. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 752 (*struct*)Jeffries, A.T. *et al*, *J. Phys. Chem.*, 1976, **80**, 287 (*uv, struct*)C₁₆H₁₅BCo[⊕]

B-00985

(η⁵-2,4-Cyclopentadien-1-yl)(1,2,3,4,5,6-η)-1-phenylborata-benzene]cobalt(1+), 10Cl

M 277.038 (ion)

Hexafluorophosphate: [51151-11-2].

C₁₆H₁₅BCoF₆P M 422.002

Orange-red cryst. (Me₂CO aq.). Mp 139° dec. ¹¹B nmr δ −23.3 ((CD₃)₂CO, reference BF₃·Et₂O). Reacts with nucleophiles to give stable adducts. Undergoes ring-contraction with amines, OH[−] and CN[−].

Herberich, G.E. *et al*, *Chem. Ber.*, 1975, **108**, 3413 (*synth, ms*)Herberich, G.E. *et al*, *Chem. Ber.*, 1979, **112**, 607 (*synth, nmr*)C₁₆H₁₅BFe

B-00986

(η⁵-2,4-Cyclopentadien-1-yl)(1,2,3,4,5,6-η)-1-phenylborata-benzene]iron, 10Cl

[65774-56-3]

As (η⁵-2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-methylboratabenzene]iron, B-00726 with

R = Ph

M 273.952

Red cryst. Mp 77.5-78.5°.

Herberich, G.E. *et al*, *J. Organomet. Chem.*, 1978, **144**, C1 (*synth, ms, pmr, nmr*)

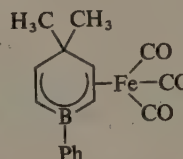
C₁₆H₁₅BFeO₃

B-00987

Tricarbonyl[(2,3,5,6-η)-1,4-dihydro-4,4-dimethyl-1-phenylborin]iron, 10Cl

Tricarbonyl(4,4-dimethyl-1-phenyl-1-bora-2,5-cyclohexadiene)iron

[62980-53-4]



M 321.950

Golden-yellow cryst. (pentane). Mp 85.5°, dec. >200°.

Bp_{0.001} 60° subl.

Herberich, G.E. *et al*, *Chem. Ber.*, 1977, **110**, 760 (*synth, pmr, nmr, ir, ms*)

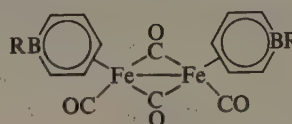
C₁₆H₁₆B₂Fe₂O₄

B-00988

Di-μ-carbonyldicarbonylbis[(1,2,3,4,5,6-η)-1-methylboratabenzene]diiron, 9Cl

Di-μ-carbonyldicarbonylbis(1-methylborinato)diiron

[54853-78-0]



R = Me

M 405.614

Violet plates. Mp 130° dec. Subl. at 80° *in vacuo*.

Herberich, G. *et al*, *Chem. Ber.*, 1974, **107**, 3780 (*synth*, *pmr*, *ir*, *ms*)

Huttner, G. *et al*, *Chem. Ber.*, 1974, **107**, 3786 (*struct*)

C₁₆H₁₉B

B-00989

9-(Phenylethynyl)-9-borabicyclo[3.3.1]nonane, 10CI

B-Phenylethynyl-9-BBN

[67553-90-6]

As 9-Ethynyl-9-borabicyclo[3.3.1]nonane, B-00659 with

R = Ph

M 222.136

THF complex: [63220-90-6]. 1,5-Cyclooctanediyl(phenylethynyl)(tetrahydrofuran)boron, 10CI.

C₂₀H₂₇BO M 294.243

Cryst., stable for >1 yr. at 20° under N₂, but sensitive to air. Sol. pentane.

Sinclair, J.A. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 954.

Molander, G.A. *et al*, *J. Org. Chem.*, 1977, **42**, 3106 (*synth*)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, **131**, 163 (*synth*, *nmr*)

C₁₆H₁₉BFeINO₂

B-00990

(1-*tert*-Butyl-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl-B²,N¹)dicarbonylidoiron

Dicarbonyl[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl-B²,N¹]-iodoiron, 10CI

[75059-85-7]

As [(3,4,5- η)-1-*tert*-Butyl-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-B²,N¹]iodoiron, B-00664 with

R = Ph, R' = CH₃

M 450.893

Brown plates (pet. ether). Mp 95-6°.

Schulze, J. *et al*, *Chem. Ber.*, 1980, **113**, 2348 (*synth*, *ir*, *pmr*, *nmr*, *cryst struct*)

C₁₆H₁₉BO

B-00991

Butoxydiphenylborane

Diphenylborinic acid butyl ester, 10CI, 9CI, 8CI. Butyl diphenylborinate

[15323-04-3]

Ph₂BO(CH₂)₃CH₃

M 238.136

Stabilizer for vinyl chloride. Air- and moisture-sensitive. Sol. nonhydroxylic solvs.

U.S.P., 2 862 952, (1958); *CA*, **53**, 9149a (*synth*)

U.S.P., 2 884 441, (1959); *CA*, **54**, 298g (*synth*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1962, 413 (*props*)

Dorokhov, V.A. *et al*, *Zh. Obshch. Khim.*, 1975, **45**, 1772.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, **174**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **28**, 163.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, **869**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **30**, 649.

C₁₆H₁₉BO

B-00992

(2-Methylpropoxy)diphenylborane

Diphenylborinic acid 2-methylpropyl ester, 10CI. Diphenylborinic acid isobutyl ester, 8CI. Isobutyl diphenylborinate. Isobutyloxydiphenylborane

[23147-97-9]

Ph₂BOCH₂CH(CH₃)₂

M 238.136

Air- and moisture-sensitive liq. Used for derivatising nucleosides. Sol. nonhydroxylic solvs. Bp 142-5°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1956, 322; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1956, 311 (*synth*)

Yurkevich, A.M. *et al*, *Zh. Obshch. Khim.*, 1968, **38**, 2115 (*use*)

Arbuzova, B.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, **2349**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **28**, 2170

(*props*)

Arbuzov, B.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 954.

C₁₆H₁₉BS

B-00993

(Butylthio)diphenylborane

Diphenylthioborinic acid butyl ester, 10CI

[61209-21-0]

Ph₂BS(CH₂)₃CH₃

M 254.196

Used in synth. of diaryl ketiminoboranes. Air- and moisture-sensitive. Sol. nonhydroxylic solvs.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 1820, 1823; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **25**, 1715, 1717 (*use*)

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, **253**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 224.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1385; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **27**, 1205.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, **1340**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **28**, 1253.

C₁₆H₂₁B

B-00994

9-(2-Phenylethenyl)-9-borabicyclo[3.3.1]nonane, 10CI

B-(2-Phenylethenyl)-9-BBN. B-Styryl-9-BBN

As 9-(4-Methylphenyl)-9-borabicyclo[3.3.1]nonane, B-00953 with

R = —CH=CHPh

M 224.152

(*E*)-form [69322-49-2]

Formed by hydroboration of phenylacetylene with 9-BBN. Reagent for phenylethenyl group transfer. Air-sensitive.

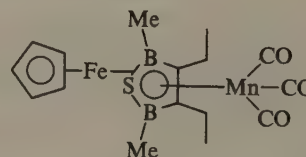
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 96.

C₁₆H₂₁B₂FeMnO₃S

B-00995

Tricarbonyl[(η^5 -2,4-cyclopentadien-1-yl)iron][μ -[(1,2,3,4,5- η :1,2,3,4,5- η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole]]manganese, 10CI

[66921-71-9]



M 425.805

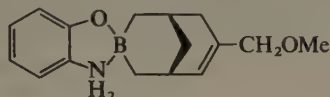
Green air-stable cryst. Mp 194°.

Siebert, W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1978, **17**, 527 (*synth*, *pmr*, *nmr*, *ir*, *ms*)

C₁₆H₂₂BNO₂

B-00996

3-(2-Aminophenoxy)-7-(methoxymethyl)-3-borabicyclo[3.3.1]-6-nonene
(2-Aminophenolato-N,O)[[5-(methoxymethyl)-4-cyclohexene-1,3-diyl]bis(methylene)]boron, 10CI
[76014-64-7]



M 271.165

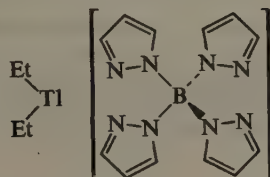
Pale-yellow cryst. V. sensitive to moisture and air.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1881; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1355 (synth, ir, pmr)

C₁₆H₂₂BN₈Tl

B-00997

Diethyl[tetrakis(1H-pyrazolato-N¹)borato(1-)-N²,N^{2'}]thallium
[74882-66-9]



M 541.596

Monomeric fluxional and having low conductivity in soln.
Sol. common org. solvs. Mp 194°.

▷ Toxic

Onishi, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, 53, 1459 (synth, ms, ir, pmr)

C₁₆H₂₃B

B-00998

9-(2-Phenylethyl)-9-borabicyclo[3.3.1]nonane, 10CI
B-(2-Phenylethyl)-9-BBN
[67753-90-6]

As 9-(4-Methylphenyl)-9-borabicyclo[3.3.1]nonane, B-00953 with



M 226.168

Pale-yellow oil giving thick white fumes when exposed to air. Bp_{0.35} 119-20°.

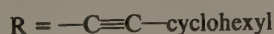
Midland, M.M. *et al*, *J. Organomet. Chem.*, 1978, 156, 203.
Vishwakarma, L.C. *et al*, *J. Org. Chem.*, 1980, 45, 5306 (synth, nmr)

C₁₆H₂₅B

B-00999

9-(Cyclohexylethynyl)-9-borabicyclo[3.3.1]nonane, 10CI
[62459-79-4]

As 9-(4-Methylphenyl)-9-borabicyclo[3.3.1]nonane, B-00953 with



M 228.184

Synthetic intermed. Sensitive to air.

Molander, G.A. *et al*, *J. Org. Chem.*, 1977, 42, 3106.
Sinclair, J.A. *et al*, *J. Am. Chem. Soc.*, 1977, 99, 954 (synth)

C₁₆H₂₆BCl₂N₆ORh

B-01000

Dichloro(methanol)[tris(3,5-dimethyl-1H-pyrazolato-N¹)-hydroborato(1-)-N²,N^{2'},N^{2''}]rhodium
Hydrotris(3,5-dimethylpyrazolyl)borato]dichloro(methanol)rhodium
[73117-95-0]
M 503.043

Incorrectly named in 10CI. Starting material for hydrotris(3,5-dimethylpyrazolyl)borato-rhodium complexes. Gold prisms (MeOH). Mp 296-8°.

May, S. *et al*, *Inorg. Chem.*, 1980, 19, 1582 (synth, pmr)

C₁₆H₂₆BN

B-01001

9-Borabicyclo[3.3.1]nonane 2-isopropylpyridine
1,5-Cyclooctanediylhydro[2-(1-methylethyl)pyridine]-boron, 10CI. 2-(1-Methylethyl)pyridine, compd. with 9-borabicyclo[3.3.1]nonane(1:1)
[70338-12-4]

As 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B-00705 with



M 243.198

ca. 26% associated at 0.13 molar in cyclohexane.

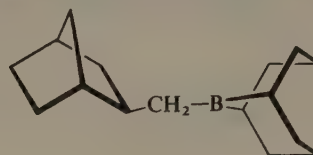
Brown, H.C. *et al*, *Recl. Trav. Chim. Pays-Bas*, 1979, 98, 117 (synth, props)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, 45, 1748 (cmr, props)

C₁₆H₂₇B

B-01002

9-(Bicyclo[2.2.1]hept-2-ylmethyl)-9-borabicyclo[3.3.1]nonane, 10CI
9-(2-Norbornylmethyl)-9-borabicyclo[3.3.1]nonane



exo-form

M 230.199

exo-form [74763-92-1]

No phys. props. reported.

endo-form [74763-91-0]

No phys. props. reported.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, 45, 4067 (synth)

C₁₆H₂₇B

B-01003

9-(1-Octynyl)-9-borabicyclo[3.3.1]nonane
B-(1-Octynyl)-9-BBN

As 9-Ethynyl-9-borabicyclo[3.3.1]nonane, B-00659 with



M 230.199

THF complex: [63220-89-3]. 1,5-Cyclooctanediyl-1-octynyl(tetrahydrofuran)boron, 10CI.

C₂₀H₃₅BO M 302.306

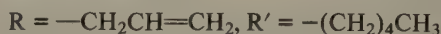
Cryst., stable for >1 yr. at 20° under N₂, but sensitive to air. Sol. pentane.

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1977, 131, 163 (synth)

C₁₆H₂₇B **B-01004**

7-Pentyl-3-(2-propenyl)-3-borabicyclo[3.3.1]non-6-ene, 10Cl
3-Allyl-7-amyl-3-borabicyclo[3.3.1]non-6-ene
[67683-02-7]

As 7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]non-6-ene, B-00670 with



M 230.199

Air- and moisture-sensitive liq. Bp₃ 124-5°.

Bubnov, Yu.N. *et al*, *Zh. Obshch. Khim.*, 1970, **40**, 1316 (*synth*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1392.

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113.

C₁₆H₂₉B **B-01005**

9-Cyclooctyl-9-borabicyclo[3.3.1]nonane, 10Cl

B-Cyclooctyl-9-BBN

[67753-92-8]

As 9-(4-Methylphenyl)-9-borabicyclo[3.3.1]nonane, B-00953 with



M 232.215

Synthetic intermed. Sensitive to air.

Midland, M.M. *et al*, *J. Organomet. Chem.*, 1978, **156**, 203 (*synth*)

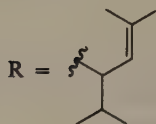
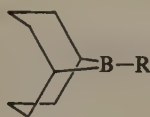
Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 4067.

C₁₆H₂₉B **B-01006**

9-[3-Methyl-1-(1-methylethyl)-2-butenyl]-9-borabicyclo[3.3.1]nonane, 10Cl

B-(3,3-Dimethyl-1-isopropylallyl)-9-BBN

[61967-14-4]



M 232.215

Synthetic intermed. Colourless oil, sensitive to air and somewhat so to moisture. Bp_{0.001} 84-6°.

Kramer, G.W. *et al*, *J. Org. Chem.*, 1977, **42**, 2292.

Kramer, G.W. *et al*, *J. Organomet. Chem.*, 1977, **132**, 9 (*nmr*, *pmr*, *synth*)

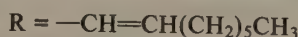
C₁₆H₂₉B **B-01007**

9-(1-Octenyl)-9-borabicyclo[3.3.1]nonane, 10Cl

B-Octenyl-9-borabicyclo[3.3.1]nonane. B-Octenyl-9-BBN

[74142-77-1]

As 9-(4-Methylphenyl)-9-borabicyclo[3.3.1]nonane, B-00953 with



M 232.215

Reagent for transfer of 1-octenyl group, often stereospecifically.

(*E*)-form [73062-42-7]

Air-sensitive.

(*Z*)-form [75579-48-5]

Formed by hydroboration of 1-octyne with 9-BBN. Air-sensitive.

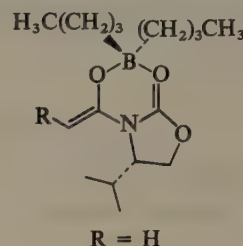
Miyaura, N. *et al*, *Tetrahedron Lett.*, 1980, **21**, 537.

Yatagai, H., *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1670.

Yatagai, H., *J. Org. Chem.*, 1980, **45**, 1640.

C₁₆H₃₀BNO₃ **B-01008**

Dibutyl[3-(1-hydroxyethenyl)-4-(1-methylethyl)-2-oxazolidinonato-O², O³]boron, 10Cl



R = H

M 295.228

(*S*)-form [79616-69-6]

Intermed. in enantioselective aldol condensations.

Evans, D.A. *et al*, *Pure Appl. Chem.*, 1981, **53**, 1109 (*synth*)

C₁₆H₃₀BO[⊖] **B-01009**

2-Furanyltris(1-methylpropyl)borate(1-), 10Cl

2-Furyltri-sec-butylborate

As 2-Furanyltripropylborate(1-), B-00867 with



M 249.222 (ion)

Li salt: [70469-69-1].

C₁₆H₃₀BLiO M 256.163

Synthetic intermed., prepd. *in situ*.

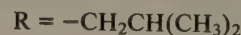
Akimoto, I. *et al*, *Synthesis*, 1979, 146 (*synth*)

C₁₆H₃₀BO[⊖] **B-01010**

2-Furanyltris(2-methylpropyl)borate(1-), 10Cl

2-Furyltriisobutylborate

As 2-Furanyltripropylborate(1-), B-00867 with



M 249.222 (ion)

Li salt: [70440-86-7].

C₁₆H₃₀BLiO M 256.163

Synthetic intermed., prepd. *in situ*.

Akimoto, I. *et al*, *Synthesis*, 1979, 146 (*synth*)

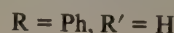
C₁₆H₃₀B₁₈Fe[⊖] **B-01011**

Bis[(7,8,9,10,11-η)-1,2,3,4,5,6,8,9,10,11-decahydro-7-phenyl-7,8-dicarbaundecaborato(2-)]ferrate(1-), 10Cl

Bis[decahydro-7-phenyl-π-7,8-dicarbaundecaborato(2-)]ferrate(1-)

As Bis[(7,8,9,10,11-

η)-1,2,3,4,5,6,9,10,11-nonahydro-7,8-dimethyl-7,8-dicarbaundecaborato(2-)]ferrate(1-), B-00586 with



M 472.840 (ion)

Paramagnetic. Reduced to a deep-blue ferrate (2–) species.

Tetramethylammonium salt: [12302-58-8]. Red cryst. Mp >300°.

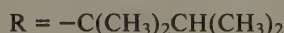
Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 879 (synth)Ammeter, J.H. *et al*, *J. Magn. Reson.*, 1978, **30**, 299 (esr)C₁₆H₃₁B

B-01012

Dicyclopentyl(1,1,2-trimethylpropyl)borane, 10Cl, 9Cl

Dicyclopentyl(2,3-dimethyl-2-butyl)borane. Dicyclopentylthexylborane. Thexyldicyclopentylborane [58879-31-5]

As Dicyclopentylmethoxyborane, B-00738 with



M 234.231

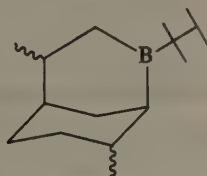
Prepd. *in situ* by hydroboration of cyclopentene with thexylborane. Synthetic intermed., e.g. for synth. of dicyclopentyl ketone. Air-sensitive liq. Sol. THF.Hughes, R.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 1172 (use)Hughes, R.J. *et al*, *Tetrahedron Lett.*, 1979, 1895 (use)Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (rev)C₁₆H₃₁B

B-01013

4,8-Dimethyl-2-(1,1,2-trimethylpropyl)-2-borabicyclo[3.3.1]nonane, 10Cl

B-Thexyl-4,8-dimethyl-2-borabicyclo[3.3.1]nonane. Thexyllimonylborane

[31753-03-4]



M 234.231

Prepd. by hydroboration of limonene with thexylborane.

Hydride adduct used for stereoselective synth. of alcohols and selective reduction of prostaglandin intermeds. Air-sensitive liq. Sol. THF. Bp_{0.4} 88°.Corey, E.J. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 1491 (use)Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 3567 (synth)Brown, H.C. *et al*, *Tetrahedron*, 1975, **31**, 925 (pmr, synth, use)Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (nmr, use)C₁₆H₃₁B

B-01014

9-Octyl-9-borabicyclo[3.3.1]nonane, 10Cl, 9Cl, 8Cl

B-Octyl-9-BBN

[30089-00-0]

As 9-[3-Methyl-1-(1-methylethyl)-2-butenyl]-9-borabicyclo[3.3.1]nonane, B-01006 with



M 234.231

Formed by hydroboration of 1-octene with 9-BBN.

Reagent for transfer of 1-octyl group. Sensitive to air.

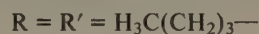
Midland, M.M. *et al*, *J. Organomet. Chem.*, 1977, **134**, C17; 1978, **156**, 203.Jigajinni, V.B. *et al*, *Tetrahedron Lett.*, 1978, 181.Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 4067.Jigajinni, V.B. *et al*, *J. Chem. Res. Synop.*, 1981, 376.Midland, M.M. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 525.C₁₆H₃₂B[⊖]

B-01015

9,9-Dibutyl-9-boratabicyclo[3.3.1]nonane, 10Cl

Dibutyl-1,5-cyclooctanediylborate(1–), 9Cl. 9,9-Dibutyl-9-borabicyclo[3.3.1]nonanate

As 9-Boratabicyclo[3.3.1]nonane, B-00546 with



M 235.239 (ion)

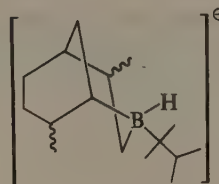
Li salt: [56050-29-4].

C₁₆H₃₂B[⊖]Li⁺ M 242.180Selective reducing agent for *tert*-alkyl, benzyl and allyl halides to give hydrocarbons.Yamamoto, Y. *et al*, *Chem. Lett.*, 1975, 1199 (nmr)Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 2558; 1976, **98**, 1965 (use)Yamamoto, Y. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 672 (use)Hubbard, J.L. *et al*, *J. Organomet. Chem.*, 1978, **156**, 81 (synth, nmr)Yamamoto, Y. *et al*, *Tetrahedron Lett.*, 1980, **21**, 3599 (cmr)C₁₆H₃₂B[⊖]

B-01016

4,8-Dimethyl-2-(1,1,2-trimethylpropyl)-2-boratabicyclo[3.3.1]nonane, 10Cl

[(6-Methyl-1,3-cyclohexanediyl)(1-methyl-1,2-ethanediyl)](1,1,2-trimethylpropyl)borate(1–), 9Cl. 2-(2,3-Dimethyl-2-butyl)-4,8-dimethyl-2-boratabicyclo[3.3.1]nonane. B-Thexyl-4,8-dimethyl-2-boratabicyclo[3.3.1]nonane



M 235.239 (ion)

Li salt: [38218-68-7].

C₁₆H₃₂B[⊖]Li⁺ M 242.180

Hindered, stereoselective reducing agent. Air- and moisture-sensitive. Sol. THF.

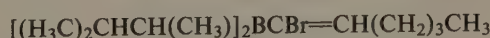
Ger. Pat., 2 207 987, (1972); CA, **77**, 152342rCorey, E.J. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 8616.U.S.P., 3 974 183, (1976); CA, **86**, 72219bBrown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1.C₁₆H₃₂BBR

B-01017

(1-Bromo-1-hexenyl)bis(1,2-dimethylpropyl)borane, 10Cl

Disiamyl(1-bromo-1-hexenyl)borane

[67532-02-9]



M 315.143

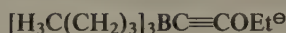
Synthetic intermed. Sensitive to air. Sol. THF.

Masuda, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1652.

C₁₆H₃₂BO[⊖]

B-01018

Tributyl(ethoxyethynyl)borate(1-), 10Cl



M 251.238 (ion)

Li salt: [63964-04-5].

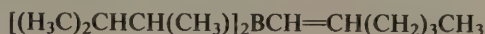
C₁₆H₃₂BLiO M 258.179Prepd. *in situ* from tributylborane and 2-ethoxyethynyllithium. Synth. intermed. Air- and acid-sensitive. Sol. THF.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1456, 2633; 1979, 855; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1977, 1342, 2437; 1979, 799.C₁₆H₃₃B

B-01019

Bis(1,2-dimethylpropyl)-1-hexenylborane, 10Cl, 9Cl

1-Hexenyldisiamylborane. Bis(3-methyl-2-butyl)-1-hexenylborane

[55168-92-8]



M 236.247

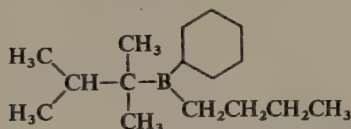
Prepd. *in situ* from disiamylborane and 1-hexyne (gives *trans*-isomer). Synthetic intermed. Sensitive to air. Sol. THF.Brown, H.C., *Boranes in Organic Chemistry*, Cornell, Ithaca, N.Y., 1972.Brown, H.C., *Organic Synthesis via Boranes*, Wiley, N.Y., 1975.Negishi, E. *et al*, *J. Organomet. Chem.*, 1975, 92, C4 (*synth*)Yamamoto, Y. *et al*, *J. Org. Chem.*, 1975, 40, 3434 (*cmr*)Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1977, 99, 5652 (*props*)Yatagai, H. *et al*, *J. Org. Chem.*, 1979, 44, 2566 (*pmr*)Yatagai, H., *Bull. Chem. Soc. Jpn.*, 1980, 53, 1670 (*synth*)C₁₆H₃₃B

B-01020

Butylcyclohexyl(1,1,2-trimethylpropyl)borane, 10Cl

Butylcyclohexyl(2,3-dimethyl-2-butyl)borane. Butylcyclohexylthexylborane. Thexylcyclohexylbutylborane

[77123-50-3]



M 236.247

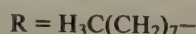
Synth. intermed., prepd. *in situ* by sequential hydroboration reactions. Oil, sensitive to air but stable under N₂ for many hours. Sol. THF.Slayden, S.W., *J. Org. Chem.*, 1981, 46, 2311 (*synth, props*)C₁₆H₃₃B

B-01021

3,6-Dimethyl-1-octylborepane, 10Cl

[66951-21-1]

As 3,6-Dimethylborepane, B-00551 with



M 236.247

Synth. intermed. for transfer of 1-octyl group. No phys. props. reported. Sol. THF.

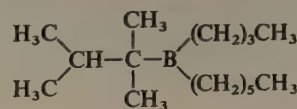
Jigajinni, V.B. *et al*, *Tetrahedron Lett.*, 1978, 181 (*use*)C₁₆H₃₅B

B-01022

Butylhexyl(1,1,2-trimethylpropyl)borane, 10Cl

Butylhexyl(2,3-dimethyl-2-butyl)borane. Butylhexylthexylborane. Thexylbutylhexylborane

[75052-82-3]



M 238.263

Prepd. *in situ* from thexylchloroborane and 1-hexene, then butyllithium. Synthetic intermed. Oil, sensitive to air; stable to disproportionation over prolonged periods. Sol. THF.Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1980, 102, 5919 (*synth*)C₁₆H₃₆B[⊖]

B-01023

Tetrabutylborate(1-), 10Cl, 9Cl, 8Cl

[24651-47-6]



M 239.270 (ion)

Li salt: [15243-31-9].

C₁₆H₃₆BLi M 246.211Used in battery electrolytes; catalyst for butadiene polym. Air- and acid-sensitive solid. Insol. hexane, pentane, sol. H₂O. Mp 205° dec.

Tetrabutylammonium salt: [23231-91-6].

C₃₂H₇₂BN M 481.738

Crosslinking agent for epoxy resins.

Jäger, H. *et al*, *Chem. Ber.*, 1962, 95, 345 (*use*)Damico, R.A. *et al*, *J. Org. Chem.*, 1964, 29, 1971 (*synth, ir*)Jenkins, D.K. *et al*, *Chem. Ind. (London)*, 1966, 1887 (*synth, ir*)Dixon, C. *et al*, *Eur. Polym. J.*, 1972, 8, 13 (*use*)Grindley, T. *et al*, *J. Chem. Phys.*, 1972, 56, 3602 (*props*)Takezawa, S. *et al*, *J. Phys. Chem.*, 1973, 77, 2133 (*props*)Yamamoto, Y. *et al*, *Chem. Lett.*, 1975, 1199 (*pmr, cmr*)Japan. Pat., 76 08 337, (1976); CA, 84, 151708x (*use*)Negishi, E. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, 1225 (*synth, use*)Gill, D.S., *J. Solution Chem.*, 1979, 8, 691 (*props*)C₁₆H₃₆BCIN₂

B-01024

Chlorobis(dibutylamino)borane, 8Cl

N,N,N',N'-Tetrabutyl-1-chloroboranediamine, 10Cl

[18379-69-6]



M 302.737

Used in synthesis of corresponding monomeric cyanoborane. Probably liq., sensitive to moisture.

Gros, G. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1967, 265, 1065 (*props*)Gallais, F. *et al*, *J. Chim. Phys. Phys. Chim. Biol.*, 1971, 68, 247 (*props*)Meller, A. *et al*, *J. Organomet. Chem.*, 1977, 141, 249 (*props*)Meller, A. *et al*, *Monatsh. Chem.*, 1977, 108, 1279 (*props*)C₁₆H₃₆B₂O

B-01025

Oxybis[dibutylborane], 10Cl, 8Cl

Bis(dibutylboron)oxide

[3027-53-0]



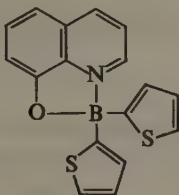
M 266.080

Air- and moisture-sensitive liq. Sol. THF. Bp₁₀ 110-2°. Heat of formn. (liq.); ΔH_f° –212.8 Kcal mol⁻¹.

Nöth, H. *et al*, *Chem. Ber.*, 1964, **97**, 1464 (*synth*)
Tuchagues, J.P. *et al*, *Bull. Soc. Chim. Fr.*, 1968, 2009 (*use*)
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 2802 (*synth*)
Davies, A.G. *et al*, *J. Chem. Soc. (B)*, 1971, 698 (*props*)
Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1919; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1977, 1783 (*use*)
Pola, M. *et al*, *Collect. Czech. Chem. Commun.*, 1979, **44**, 3688 (*ir*)

C₁₇H₁₂BNOS₂

(8-Quinolinolato-N¹, O⁸)di-2-thienylboron, 10Cl
[74344-31-3]



M 321.218
Antibacterial agent.

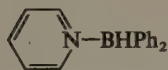
Bailey, P.J. *et al*, *Antimicrob. Agents. Chemother.*, 1980, **17**, 549 (*use*)

B-01026

C₁₇H₁₆BN

Diphenylborane pyridine

Hydrodiphenyl(pyridine)boron, 10Cl. Pyridine, compd. with diphenylborane(1:1). Pyridine diphenylborane
[67975-72-8]



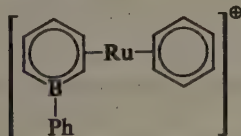
M 245.130
Large colourless cryst. (C₆H₆/hexane), reported to be air stable. Mp 107-8°.

Hawthorne, M.F., *J. Am. Chem. Soc.*, 1958, **80**, 4293 (*synth*)
Jacob, P., *J. Organomet. Chem.*, 1978, **156**, 101 (*synth*)

B-01027

C₁₇H₁₆BRu[®]

(η⁶-Benzene)((1,2,3,4,5,6-η)-1-phenylboratabenzene)ruthenium(1+), 10Cl



M 332.193 (ion)
Hexafluorophosphate: [69891-00-5].

C₁₇H₁₆BF₆PRu M 477.158

Pearl-coloured plates. Mp 171-171.5°. Dec. >240°.

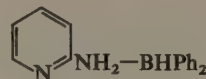
Herberich, G.E. *et al*, *Chem. Ber.*, 1979, **112**, 607 (*synth*, *pmr*, *nmr*)

B-01028

C₁₇H₁₇BN₂

Diphenylborane 2-aminopyridine

Hydrodiphenyl(2-pyridinamine-N')boron, 10Cl. 2-Pyridinamine compd. with diphenylborane(1:1)
[70262-74-7]



M 260.145

Palmer, D.W. *et al*, *Synth. React. Inorg. Met.-Org. Chem.*, 1979, **9**, 13.

B-01029

C₁₇H₁₇BO₂

(2,4-Pentanedionato-O, O')diphenylboron, 10Cl

Diphenylboryl acetylacetonate

[19426-80-3]

As (2,4-Pentanedionato-O, O')dipropylboron, B-00741 with

R = Ph

M 264.130

Cryst. (C₆H₆). Dipole moment 4.90D.

Trestianu, H. *et al*, *Tetrahedron*, 1968, **24**, 2499 (*nmr*)

Hammel, J.C. *et al*, *J. Chem. Soc. (A)*, 1969, 1461, 2883 (*nmr*, *ir*)

Balaban, A.T. *et al*, *Tetrahedron*, 1977, **33**, 3265.

Kopteva, T.S. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 1587 (*ir*)

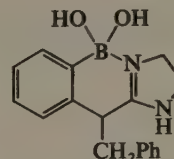
Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 80; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 70 (*ms*)

B-01030

C₁₇H₁₉BN₂O₂

[2-[1-(4,5-Dihydro-1H-imidazol-2-yl)-2-phenylethyl]phenyl]-dihydroxyborane

[2-[1-(4,5-Dihydro-1H-imidazol-2-yl)-2-phenylethyl]-phenyl]boronic acid, 10Cl. (N³-B)-2-[1-(o-Dihydroxyborylphenyl)-2-phenylethyl]-2-imidazoline
[65734-27-2]



M 294.159

Isol. only as the hydrochloride, but has been produced in soln.

B, HCl:

C₁₇H₂₀B₂ClN₂O₂ M 341.430

Used for determination of tartaric acid. White cryst. solid (MeCN aq.). Mod. sol. H₂O. indefinite Mp and dec. pt.

Kankare, J.J. *et al*, *Acta Chem. Scand., Ser. B*, 1977, **31**, 914 (*synth*)

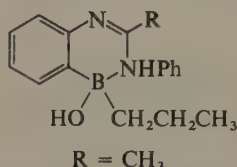
Kankare, J.J. *et al*, *Anal. Chim. Acta*, 1978, **99**, 151 (*use*)

B-01031

C₁₇H₂₁BN₂O

B-01032

Hydroxy[2-[[1-(phenylamino)ethylidene]amino]phenyl]propylboron, 10Cl
[69934-19-6]



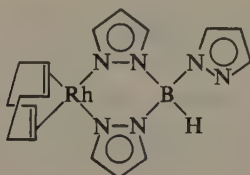
M 280.176

Colourless cryst. Sl. sol. org. solvs. Mp 184-98°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 174; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 163 (synth, ir)Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 411; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 380 (ir, tautom)C₁₇H₂₂BN₆Rh

B-01033

[(1,2,5,6-η)-1,5-Cyclooctadiene]hydrottris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*²]rhodium, 9Cl
[52668-35-6]

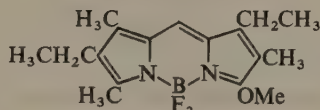


M 424.117

Yellow cryst. (CH₂Cl₂/Et₂O). Mp 167°. Stereochem. non-rigid at r.t.O'Sullivan, D.J. *et al*, *J. Organomet. Chem.*, 1974, 65, C47 (synth)King, R.B. *et al*, *J. Organomet. Chem.*, 1974, 73, 115 (synth, nmr)C₁₇H₂₃BF₂N₂O

B-01034

[4-Ethyl-2-[3-ethyl-5-methoxy-4-methyl-2*H*-pyrrol-2-ylidene)methyl]-3,5-dimethyl-1*H*-pyrrolato-*N*¹,*N*²]difluoroboron, 10Cl
[66585-84-0]

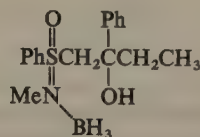


M 320.188

Falk, H. *et al*, *Monatsh. Chem.*, 1978, 109, 183, 883.C₁₇H₂₄BNO₂S

B-01035

[α-Ethyl-α-[(*N*-methyl-*S*-phenylsulfonimidoyl)methyl]benzenemethanol-*N*]trihydroboron, 10Cl
α-Ethyl-α-[(*N*-methyl-*S*-phenylsulfonimidoyl)methyl]benzenemethanol, compd. with borane(1:1)
[73808-90-9]

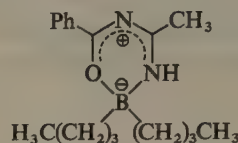


M 317.252

Known in two diastereoisomeric forms. Asymmetric reducing agent. Prepared *in situ* at low temp.Johnson, C.R. *et al*, *Tetrahedron Lett.*, 1979, 4713.C₁₇H₂₇BN₂O

B-01036

Dibutyl[*N*-(1-iminoethyl)benzamido-*N,N*,*O*]boron, 10Cl
[43163-49-1]

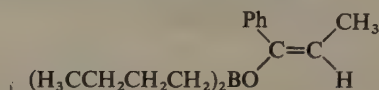


M 286.223

Dorokhov, V.A. *et al*, *Zh. Obshch. Khim.*, 1973, 43, 1115 (synth)Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 80; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 70 (ms)C₁₇H₂₇BO

B-01037

Dibutyl(1-phenyl-1-propenyloxy)borane
Dibutylborinic acid 1-phenyl-1-propenyl ester, 10Cl



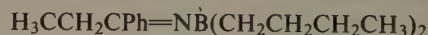
M 258.210

(Z)-form [78024-09-6]

Prepd. *in situ*. Intermed. in stereoselective aldol condensations. Air- and moisture-sensitive. Characterised spectroscopically.Evans, D.A. *et al*, *J. Am. Chem. Soc.*, 1981, 103, 3099 (use, synth, pmr)Evans, D.A. *et al*, *Pure Appl. Chem.*, 1981, 53, 1109 (use, synth, pmr)C₁₇H₂₈BN

B-01038

1,1-Dibutyl-*N*-(1-phenylpropylidene)boranamine, 10Cl, 9Cl
[54948-31-1]

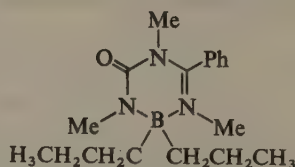


M 257.225

Air- and moisture-sensitive liq. d₄²⁰ 0.883. Bp_{2.0} 118-21°. n_D²⁰ 1.5080.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974, 2389; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2307 (synth, ir, nmr)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2053, 2756; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1924, 2566.Mikhailov, B.M. *et al*, *Khim. Elementoorg. Soedin*, 1976, 3.C₁₇H₂₈BN₃O

B-01039

Dipropylboryl-(*N*-methylcarbamoyl)-*N,N'*-dimethylbenzamidinate
[*N,N'*-Dimethyl-*N*-[methylamino(carbonyl)]benzene-carboximidamidato-*N,N,N'*]dipropylboron, 10Cl
[69109-12-2]



M 301.238

Cryst. Mp 111-3°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2578; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2304 (synth, ms, ir, nmr)

C₁₇H₂₉B

B-01040

Dicyclohexyl(3-methyl-1,3-butadienyl)borane, 10Cl, 9Cl
3-Methyl-1,3-butadienyldicyclohexylborane
[31569-53-6]

As Dicyclohexyl(methoxy)borane, B-00870 with



M 244.226

Characterised spectroscopically. Sensitive to air. Sol. THF.

Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1971, 93, 1308, 3395 (synth, use)

Zweifel, G. *et al*, *J. Organomet. Chem.*, 1976, 117, 303 (ir, nmr, uv)

Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1977, 99, 5192 (use)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, 3, 695 (rev)

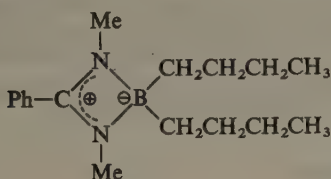
C₁₇H₂₉BN₂

B-01041

Dibutyl(*N,N'*-dimethylbenzenecarboximidamido-*N,N'*)-boron, 10Cl

N-Dibutylboryl-*N,N'*-dimethylphenylamidine

[69138-08-5]



M 272.240

Exists in intramol. coord. form, as shown. Air-sensitive liq. Bp₁ 93-5°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2578; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2304 (pmr, nmr, ir, synth)

C₁₇H₂₉BN₂

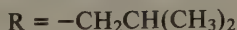
B-01042

(*N,N*-Dimethylbenzenecarboximidamido-*N,N'*)bis(2-methylpropyl)boron, 10Cl

(*N,N*-Dimethylbenzenecarboximidamido)diisobutylborane

[69202-83-1]

As (*N,N'*-Dimethylbenzenecarboximidamido-*N,N'*)-diisopropylboron, B-00960 with



M 272.240

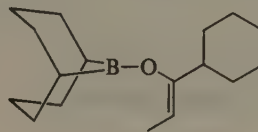
Liq. Bp₁ 89-90°. ¹¹B nmr -11, -49 ppm (hexane, 60°).

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2578; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2304 (synth, nmr, pmr)

C₁₇H₂₉BO

B-01043

9-[(1-Cyclohexyl-1-propenyl)oxy]-9-borabicyclo[3.3.1]nonane, 10Cl



M 260.226

(*Z*)-form [72449-20-8]

Useful in stereoselective aldol condensations. Air- and moisture-sensitive.

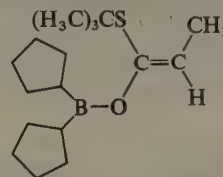
Van Horn, D.E. *et al*, *Tetrahedron Lett.*, 1979, 2229 (synth)

C₁₇H₃₁BOS

B-01044

Dicyclopentyl(1-*tert*-butylthio-1-propenyloxy)borane

Dicyclopentylborinic acid 1-[(1,1-dimethylethylthio)-1-propenyl ester], 10Cl



M 294.301

(*Z*)-form [72251-55-9]

Prepd. *in situ*. Intermed. in stereoselective synth. of β-hydroxy-α-methylcarboxylic acid thiol esters. Air- and moisture-sensitive. Sol. THF.

Hirama, M. *et al*, *Tetrahedron Lett.*, 1979, 2225 (synth, use)

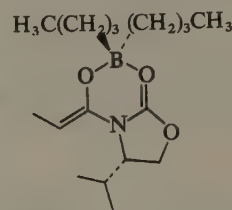
Evans, D.A. *et al*, *J. Am. Chem. Soc.*, 1981, 103, 3099 (props)

C₁₇H₃₂BNO₃

B-01045

Dibutyl[1-(4-isopropyl-2-oxo-3-oxazolidinyl)propen-1-yloxy]borane

Dibutylborinic acid 1-[4-(1-methylethyl)-2-oxo-3-oxazolidinyl]-1-propenyl ester, 10Cl



M 309.255

Prepd. *in situ*.

(*S*)-form [79563-39-6]

Intermed. in stereoselective aldol condensations. No phys. props. reported.

Evans, D.A. *et al*, *Pure Appl. Chem.*, 1981, 53, 1109 (use, synth)

C₁₇H₃₂BNO₃S

B-01046

Dibutyl[3-(1-hydroxy-2-(methylthio)ethenyl)-4-(1-methylethyl)-2-oxazolidinonato-*O*²,*O*³]boron, 10Cl

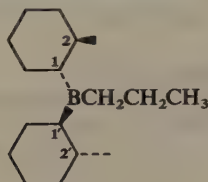
As Dibutyl[3-(1-hydroxyethenyl)-4-(1-methylethyl)-2-oxazolidinonato-*O*²,*O*³]boron, B-01008 with



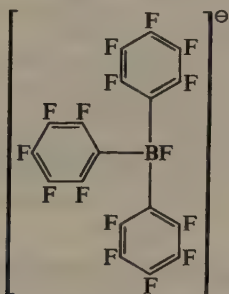
M 341.315

(S)-form [79593-16-1]

Intermed. in enantioselective aldol condensations.

Evans, D.A. *et al*, *Pure Appl. Chem.*, 1981, **53**, 1109 (*synth*)C₁₇H₃₃B**Bis(2-methylcyclohexyl)propylborane, 10Cl****B-01047**

M 248.258

(1RS, 1' RS, 2RS, 2' RS)-form [73959-25-8]**(±)-trans,trans-form**Formed *in situ* by reaction of bis(2-methylcyclohexyl)-borane with 1-propene. Synthetic intermed. Air-sensitive. Sol. THF.Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), 1979, Pergamon, Oxford, **3**, 695 (*rev*)Takahashi, Y. *et al*, *Chem. Lett.*, 1980, 461 (*synth*)C₁₈BF₁₆[⊖]**Fluorotris(pentafluorophenyl)borate(1-), 10Cl****B-01048**

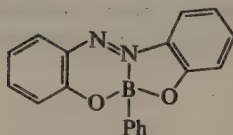
M 530.982 (ion)

Li salt: [70021-19-1].C₁₈BF₁₆Li M 537.923

Component of battery electrolytes.

Ger. Pat., 2 901 367, (1979); *CA*, **92**, 61799p (*use*)U.S.P., 4 139 681, (1979); *CA*, **90**, 207210x (*use*)Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81-4**, 131 (*props*)C₁₈H₁₃BN₂O₂**[[2,2'-Azobis(phenolato)](2-)-N,O,O']phenylboron, 10Cl****B-01049****2,2'-Dihydroxyazobenzene, cyclic ester with phenylboronic acid**

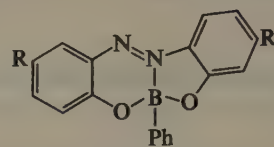
[74300-72-4]



M 300.123

Dark-red cryst. (C₆H₆/pet. ether). Mp 128°.Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316 (*ms*)Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 319 (*synth, nmr, ir*)C₁₈H₁₃BN₂O₃**[4-[(2-Hydroxyphenyl)azo]-1,3-benzenediolato(2-)]phenylboron, 10Cl****B-01050**

[74302-87-7]



R = H, R' = OH

M 316.122

Dark-red cryst. (pet. ether/C₆H₆). Mp 128°.Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316, 319 (*ms, synth*)C₁₈H₁₅B**Triphenylborane, 10Cl, 9Cl****B-01051****Triphenylborine**

[960-71-4]

BPh₃

M 242.127

Cryst. (Et₂O). Mp 142°. Bp₁₅ 245-50°.Krause, E. *et al*, *Ber.*, 1922, **55**, 1261 (*synth*)Zettler, F. *et al*, *J. Organomet. Chem.*, 1974, **72**, 157 (*struct*)Wahab, M.A. *et al*, *Egypt. J. Chem.*, 1976, **19**, 357 (*synth*)Smith, J.H. *et al*, *Inorg. Chem.*, 1977, **16**, 20 (*uv*)Nöth, H. *et al*, *NMR Spectroscopy of Boron Compounds (NMR Basic Principles and Progress, Part 14)*, 1978, Springer (*nmr*)Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*cmr, nmr*)Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 429.C₁₈H₁₅BBr₃OP**B-01052****Tribromoborane triphenylphosphine oxide****Tribromo(triphenylphosphine oxide-O)boron, 10Cl. Triphenylphosphine oxide compd. with tribromoborane(1:1), 9Cl**

[67535-58-4]

Ph₃PO—BBr₃

M 528.812

Hoste, S.C.F. *et al*, *Phys. Scr.*, 1977, **16**, 367 (*pe, cmr*)Hoste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*pe*)C₁₈H₁₅BBr₃P**B-01053****Tribromoborane triphenylphosphine****Tribromo(triphenylphosphine)boron, 10Cl. Triphenylphosphine compd. with tribromoborane(1:1), 9Cl**

[3426-98-0]

Ph₃P—BBr₃

M 512.812

Moisture-sensitive solid. Mp 194-5°.

Gee, W. *et al*, *J. Chem. Soc.*, 1964, 4180 (*synth*)Muylle, E. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 1039; 1976, **32**, 1149 (*nmr*)Romm, I.P. *et al*, *Zh. Obshch. Khim.*, 1976, **46**, 2445.Hoste, S.C.F. *et al*, *Phys. Scr.*, 1977, **16**, 367 (*pe, cmr*)Hoste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*pe*)

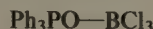
C₁₈H₁₅BCl₃OP

B-01054

Trichloroborane triphenylphosphine oxide

Trichloro(triphenylphosphine oxide-O)boron, 10Cl. Triphenylphosphine oxide compd. with trichloroborane (1:1)

[67535-57-3]



M 395.459

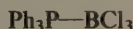
Hoste, S.C.F. *et al*, *Phys. Scr.*, 1977, **16**, 367 (*nmr*)Hoste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*pe*)C₁₈H₁₅BCl₃P

B-01055

Trichloroborane triphenylphosphine

Trichloro(triphenylphosphine)boron, 10Cl. Triphenylphosphine compd. with trichloroborane (1:1), 9Cl. Triphenylphosphine compd. with boron chloride (BCl₃) (1:1), 8Cl

[3230-03-3]



M 379.459

Cryst. which fume in air, readily hydrol. by moisture, dec. slowly. Mp 220°, 230°.

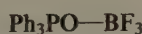
Phillips, G.M. *et al*, *J. Chem. Soc.*, 1945, 146.Muyllé, E. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 1039; 1976, **32**, 1149 (*nmr*)Plummer, J.F. *et al*, *Inorg. Chem.*, 1975, **14**, 1505 (*ir*)Hoste, S.C.F. *et al*, *Phys. Scr.*, 1977, **16**, 367 (*pe*, *cmr*)Symons, M.C.R. *et al*, *J. Chem. Res. (S)*, 1978, 122Iijima, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 3204 (*struct*)C₁₈H₁₅BF₃OP

B-01056

Trifluoroborane triphenylphosphine oxide

Trifluoro(triphenylphosphine oxide-O)boron, 10Cl. Triphenylphosphine oxide compd. with trifluoroborane (1:1), 9Cl

[850-13-5]



M 346.095

Fireproofing agent for thermoplastics. White cryst. Mp 239°.

Frazer, M.J. *et al*, *J. Inorg. Nucl. Chem.*, 1963, **25**, 637 (*synth*)U.S.P., 3 660 350, (1972); *CA*, **77**, 35740hHoste, S.C.F. *et al*, *Phys. Scr.*, 1977, **16**, 367 (*pe*, *nmr*)Hoste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*pe*)C₁₈H₁₅BF₃P

B-01057

Trifluoroborane triphenylphosphine

Trifluoro(triphenylphosphine)boron, 10Cl. Triphenylphosphine compd. with trifluoroborane (1:1), 9Cl. Triphenylphosphine compd. with boron fluoride (BF₃) (1:1), 8Cl

[850-07-7]



M 330.095

Curing agent for epoxy resins. Yellow foam, sensitive to and liquifies in air. Insol. nonpolar solvs. Mp 128-30°.

▶ Ignited by conc. HNO₃Fluck, E. *et al*, *Pure Appl. Chem.*, 1975, **44**, 373 (*pe*)Muyllé, E. *et al*, *Spectrochim. Acta, Part A*, 1975, **31**, 1039.U.S.P., 3 910 878, (1975); *CA*, **84**, 59735f (*synth*)Muyllé, E. *et al*, *Spectrochim. Acta, Part A*, 1976, **32**, 1149 (*nmr*)Hoste, S.C.F. *et al*, *Phys. Scr.*, 1977, **16**, 367 (*nmr*, *pe*)Hoste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*pe*)C₁₈H₁₅BI₃P

B-01058

Triiodoborane triphenylphosphine

Triiodo(triphenylphosphine)boron, 10Cl. Triphenylphosphine compd. with boron iodide

[3053-69-8]



M 653.814

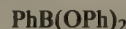
Ivory-coloured cryst. (CHCl₃). Mp 168-9°, >220° dec.Muetterties, E.L., *J. Inorg. Nucl. Chem.*, 1960, **15**, 182 (*synth*)Gee, W. *et al*, *J. Chem. Soc.*, 1964, 4180.Hoste, S.C.F. *et al*, *Phys. Scr.*, 1977, **16**, 367 (*cmr*, *pe*)Hoste, S. *et al*, *J. Electron Spectrosc. Relat. Phenom.*, 1979, **17**, 191 (*pe*)C₁₈H₁₅BO₂

B-01059

Diphenoxyphenylborane

Phenylboronic acid diphenyl ester, 10Cl, 9Cl. Benzeneboronic acid diphenyl ester, 8Cl. Diphenyl phenylboronate. Phenyl diphenoxyborane

[2938-25-2]



M 274.125

Herbicide. Moisture-sensitive solid. Sol. non-hydroxylic solvs. Mp 98-100°, 115-7°. Bp_{0.5} 140-50°.

Dandegaonker, S.H. *et al*, *J. Chem. Soc.*, 1957, 2872 (*synth*, *props*)U.S.P., 3 062 859, (1960); *CA*, **58**, 7973g (*use*)Nencetti, G. *et al*, *Ann. Chim. (Rome)*, 1963, **53**, 1875 (*synth*, *props*)Faniran, J.A. *et al*, *Can. J. Chem.*, 1968, **46**, 2089 (*ir*)Wieber, M., *Z. Anorg. Allg. Chem.*, 1974, **403**, 107 (*synth*)Batrakov, S.G. *et al*, *CA*, 1981, **95**, 183274w (*props*)C₁₈H₁₅BO₃

B-01060

Triphenoxyborane

Boric acid (H₃BO₃) triphenyl ester, 10Cl, 9Cl, 8Cl. Phenyl borate. Triphenyl borate. Triphenyl orthoborate. Tris(phenoxy)borane

[1095-03-0]



M 290.125

Catalyst for polymn. reactions, heat stabilizer, insect sterilant. Cryst. (CH₂Cl₂), slowly hydrol. by moisture. Sol. non-hydroxylic solvs. Mp 89-93°. Bp_{0.05} 155-8°.

▶ Highly toxic orally. Emits highly toxic fumes on heating. ED5775000.

Colclough, T. *et al*, *J. Chem. Soc.*, 1955, 907 (*synth*)Frazer, M.J. *et al*, *J. Chem. Soc.*, 1955, 2959 (*props*)Washburn, R.M., *Adv. Chem. Ser.*, 1959, **23**, 129 (*synth*, *props*, *use*)Shurvell, H.F. *et al*, *Can. J. Chem.*, 1968, **46**, 2081 (*ir*)Pola, M. *et al*, *Collect. Czech. Chem. Commun.*, 1979, **44**, 3688 (*ir*, *props*)Ger. Pat., 2 951 673, (1980); *CA*, **93**, 240269h (*use*)

Sax, N.I., *Dangerous Properties of Industrial Materials*, 5th Ed., Van Nostrand-Reinhold, 1979, 1067.

C₁₈H₁₅B₃Cl₃N₃

B-01061

2,4,6-Trichloro-1,3,5-triphenylborazine, 10Cl, 9Cl, 8Cl
B,B,B-Trichloro-N,N,N-triphenylborazole
[981-87-3]

As 2,4,6-Tribromoborazine, B-00015 with

X = Cl, Y = Ph

M 412.126

Used to fireproof cotton textiles; curing agent for epoxy resins. Moisture-sensitive monoclinic cryst. (C₆H₆).

Mp 273-5° (270-2°). Must be stored in desiccator or under dry C₆H₆ or toluene.

▷ED3800000.

Groszos, S.J. *et al*, *J. Am. Chem. Soc.*, 1958, **80**, 1357 (*synth, props*)

Hohnstedt, L.F. *et al*, *J. Am. Chem. Soc.*, 1960, **82**, 89 (*synth, props*)

Snedden, W., *CA*, 1963, **59**, 2304f (*ms*)

Haworth, D.T. *et al*, *J. Chromatogr.*, 1967, **27**, 302 (*chromatogr*)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

Schwarz, W. *et al*, *Cry st. Struct. Commun.*, 1977, **6**, 431 (*struct*)

C₁₈H₁₅B₃O₃

B-01062

Triphenylboroxin, 10Cl, 9Cl, 8Cl

Phenyl metaborate. Benzeneboronic anhydride. 1,3,5-Triphenyl-1,3,5-tribora-2,4,6-trioxane
[3262-89-3]

As Boroxin, B-00019 with

R = Ph

M 311.745

Lubricant. Moisture-sensitive solid. Mp 214-8°.

Molinari, M.A. *et al*, *Anales. Assoc. Quim. Arg.*, 1961, **49**, 46.

Nöth, H. *et al*, *Chem. Ber.*, 1964, **97**, 1464 (*synth*)

Aroney, M.J. *et al*, *J. Chem. Soc. (A)*, 1966, **11**, 1066 (*struct*)

Santucci, L. *et al*, *J. Chem. Soc. (A)*, 1969, **3**, 392 (*uv*)

Brookes, C.J.W. *et al*, *Org. Mass. Spectrom.*, 1970, **3**, 231 (*glc, ms*)

Griffiths, C.J., *Carbohydr. Res.*, 1980, **81**, 7 (*use*)

C₁₈H₁₅B₃O₆

B-01063

Triphenoxyboroxin, 10Cl, 9Cl, 8Cl

Phenoxy metaborate

[7187-84-0]

As Boroxin, B-00019 with

R = OPh

M 359.743

Used as chemosterilant for flies, fire extinguisher, plasticizer and welding flux. Moisture-sensitive solid. Mp 98-101° (75-8°).

U.S.P., 3 093 675, (1960); *CA*, **59**, 13882e (*synth, use*)

Settepani, J.A. *et al*, *J. Econ. Entomol.*, 1969, **62**, 375 (*use*)

Ger. Pat., 2 214 821, (1972); *CA*, **80**, 84153q (*use*)

U.S.P., 3 864 380, (1974); *CA*, **82**, 155421e (*use*)

Shelden, R.A., *J. Catal.*, 1974, **34**, 242 (*use*)

Dzhemilev, U.M., *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, **3**, 553 (*use*)

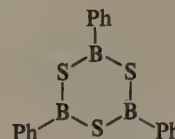
C₁₈H₁₅B₃S₃

B-01064

Triphenylborthiin, 10Cl, 9Cl, 8Cl

Triphenylborsulfole

[1870-69-5]



M 359.927

Moisture-sensitive solid. Mp 230-5°.

Abel, E.W. *et al*, *J. Chem. Soc.*, 1965, 3045 (*synth*)

Cragg, R.H. *et al*, *J. Chem. Soc. (A)*, 1967, 947 (*synth, rev, ir*)

Schmidt, M. *et al*, *Z. Naturforsch., B*, 1970, **25**, 1344 (*synth*)

Nöth, H. *et al*, *J. Organomet. Chem.*, 1977, **134**, 297.

C₁₈H₁₆B⁺

B-01065

Hydrotriphenylborate(1-), 10Cl

Triphenylhydroborate. Triphenylborohydride

Ph₃BH⁺

M 243.134 (ion)

Li salt: [63717-74-8].

C₁₈H₁₆BLi M 250.075

Reducing agent. Air- and moisture-sensitive.

Strouf, O. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 391 (*props*)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*synth, nmr*)

C₁₈H₁₇BIP

B-01066

Iodoborane triphenylphosphine

Dihydroiodo(triphenylphosphine)boron, 10Cl. Triphenylphosphine iodoborane

[59499-21-7]

IBH₂—PPh₃

M 402.021

Cryst. solid, air-stable for up to 15 hr.

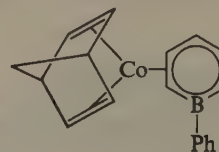
Denniston, M.L. *et al*, *J. Inorg. Nucl. Chem.*, 1976, **38**, 379 (*synth*)

Pennington, B.T. *et al*, *J. Inorg. Nucl. Chem.*, 1979, **40**, 389 (*synth, nmr*)

C₁₈H₁₈BCo

B-01067

[(2,3,5,6-η)Bicyclo[2.2.1]hepta-2,5-diene][(1,2,3,4,5,6-η)-1-phenylboratabenzene]cobalt, 10Cl
η⁴-Norborene(η⁶-1-phenylboratabenzene)cobalt
[69021-84-7]

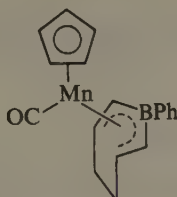


M 304.083

Red-brown cryst. Mp 189-90°. ¹¹B nmr δ +21.2 (C₆D₆, reference BF₃Et₂O).

Herberich, G.E. *et al*, *J. Organomet. Chem.*, 1978, **160**, 17 (*synth, ms, nmr*)

C₁₈H₁₈BMnO **B-01068**
Carbonyl(η⁵-2,4-cyclopentadien-1-yl)((1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1H-borepin)manganese
 [67158-14-9]



M 316.088
 Violet oil, characterised by ir and nmr.

Koelle, U. *et al*, *J. Organomet. Chem.*, 1978, **152**, 7 (*synth*, *ir*, *nmr*)

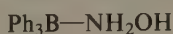
C₁₈H₁₈BN **B-01069**
Borane triphenylamine
 (N,N-Diphenylbenzenamine)trihydroboron, 10Cl. N,N-Diphenylbenzenamine, compd. with borane(1:1). Triphenylamine borane
 [69809-42-3]



M 259.157

Japan. Pat., 78 131 844, (1978); *CA*, **91**, P81565s
Japan. Pat., 78 131 845, (1978); *CA*, **91**, P81566t

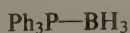
C₁₈H₁₈BNO **B-01070**
Triphenylborane hydroxylamine
 (Hydroxylamine-N)triphenylboron, 10Cl. Hydroxylamine, compd. with triphenylborane(1:1)
 [69001-94-1]



M 275.156

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 2215 (*synth*)

C₁₈H₁₈BP **B-01071**
Borane triphenylphosphine
 Trihydro(triphenylphosphine)boron, 10Cl. Triphenylphosphine compd. with BH₃. Triphenylphosphine borane
 [2049-55-0]



M 276.124

Extremely stable borane complex. Used in heat developable photoimaging processes. Comly. available. Colourless needles (C₆H₆). Mp 187-8°.

Heal, H.G. *J. Inorg. Nucl. Chem.*, 1961, **16**, 208 (*synth*)
 Berclaz, T. *et al*, *Mol. Phys.*, 1976, **32**, 815.

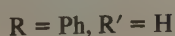
Durand, M. *et al*, *J. Chem. Soc., Dalton Trans.*, 1977, 57 (*pmr*, *nmr*)

Van Paasschen, J.M. *et al*, *Inorg. Chem.*, 1978, **17**, 3302.

Hassler, K. *et al*, *Z. Anorg. Allg. Chem.*, 1979, **448**, 161 (*ir*, *raman*)

C₁₈H₁₈B₃N₃ **B-01072**
2,4,6-Triphenylborazine, 10Cl, 9Cl, 8Cl
 B,B,B-Triphenylborazole
 [976-28-3]

As Borazine, B-00020 with



M 308.790

Insect sterilant; component of flame-retarding polymers. Cryst. (hexane). Sol. most org. solvs. Mp 183-5°. V. high thermal stability; dec. >370°. Slowly hydrol. by water.

Niedenzu, K. *et al*, *Angew. Chem.*, 1959, **71**, 651 (*synth*)

Gerrard, W. *et al*, *J. Chem. Soc.*, 1961, 3153 (*ir*)

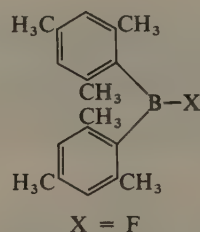
Hawthorne, M.F. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 833 (*synth*, *ir*, *nmr*)

Santucci, L., *J. Chem. Soc. (A)*, 1969, 392 (*uv*)

Nöth, H. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (*nmr*)

Odom, J.D. *et al*, *J. Organomet. Chem.*, 1979, **173**, 15 (*nmr*)

C₁₈H₂₂BF **B-01073**
Fluorobis(2,4,6-trimethylphenyl)borane, 10Cl, 9Cl
 Fluorodimesitylborane. Fluorodimesitylborine. Dimesitylfluoroborane
 [436-59-9]



M 268.180

Prepd. from mesitylmagnesium bromide and Et₂O·BF₃ at r.t. Used in synth. of other dimesitylboryl compds. Air- and moisture-sensitive orange solid. Sol. Et₂O. Mp 75.5-76°. Bp_{0.5} 127-9°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 2302 (*synth*)

Leffler, J.E. *et al*, *Chem. Ind. (London)*, 1961, 512 (*use*)

Hooz, J. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 274 (*props*)

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **193**, 271 (*nmr*)

Davidson, F. *et al*, *J. Organomet. Chem.*, 1981, **204**, 147 (*use*)

Lukehart, C.M. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 4166 (*use*)

C₁₈H₂₂B₂Cl₂N₂ **B-01074**
2,6-Dichloro-2,6-diboraadamantane bis(pyridine)
 Dichloro[μ-(1,3,5,7-cyclooctanetetrayl-C¹,C⁵:C³,C⁷)]bis(pyridine)diboron, 10Cl
 [69961-36-0]

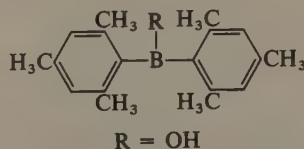
As 2,6-Dichloro-2,6-diboraadamantane bis(dimethyl sulfide), B-00802 with



M 358.911

Kulkarni, S.U. *et al*, *J. Org. Chem.*, 1979, **44**, 1747 (*synth*)

C₁₈H₂₃BO **B-01075**
Hydroxybis(2,4,6-trimethylphenyl)borane
 Bis(2,4,6-trimethylphenyl)borinic acid, 10Cl, 9Cl. Dimesitylborinic acid, 8Cl. Hydroxydimesitylborane
 [20631-84-9]



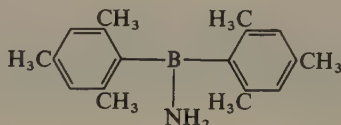
M 266.189

White cryst. (pet. ether), stable in air. Mp 140-1°.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 2302 (*synth*)
 Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1962, **32**, 1967 (*synth*)
 Lapkin, I.I. *et al*, *CA*, 1968, **69**, 47731d (*ir*)
 Lapkin, I.I. *et al*, *CA*, 1968, **69**, 47839v (*uv*)
 Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **193**, 271 (*cmr*, *nmr*)

C₁₈H₂₄BN**B-01076****Aminobis(2,4,6-trimethylphenyl)borane**

1,1-Bis(2,4,6-trimethylphenyl)boranamine, 10Cl.
Aminodimesitylborane
 [75018-24-5]

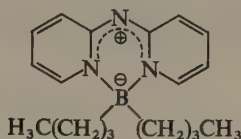


M 265.204
 White solid, moisture-sensitive. Sol. most non-hydroxylic
 org. solvs. Mp 158-62°.

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **192**, 133 (*synth*, *pmr*, *nmr*, *ir*)
 Davidson, F. *et al*, *Org. Mass Spectrom.*, 1981, **16**, 467 (*ms*)

C₁₈H₂₆BN₃**B-01077**

Dibutyl(N-2-pyridinyl-2-pyridinaminato-N^N,N¹)boron, 10Cl
Dibutylboryl-[2-(2-pyridyl)aminopyridinate]
 [64800-07-3]

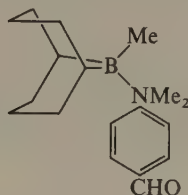


M 295.234
 Shows some antiviral activity. Yellow cryst. (EtOH);
 stable in air. Mp 93-5°. Bp₁ 150-5°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1921; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1785 (*synth*, *ir*, *ms*, *nmr*)
 Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1312; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1140 (*ms*)
 Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 1371; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1097 (*synth*, *nmr*)
 Lagutkin, N.A. *et al*, *Khim.-Farm. Zh.*, 1982, **16**, 695.

C₁₈H₂₈BNO**B-01078****9-Methyl-9-borabicyclo[3.3.1]nonane 4-dimethylaminobenzaldehyde**

1,5-Cyclooctanediyl[4-(dimethylamino)benzaldehyde-N]methylboron, 10Cl. 4-(Dimethylamino)benzaldehyde, compd. with 9-methyl-9-borabicyclo[3.3.1]nonane. B-Methyl-9-BBN p-dimethylaminobenzaldehyde
 [70719-24-3]



M 285.235

Midland, M.M. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 2352.

C₁₈H₂₈B₂Fe**B-01079****Bis(1-tert-butylborabenzene)iron**

Bis[(1,2,3,4,5,6-η)-1-(1,1-dimethylethyl)boratabenzene]iron, 9Cl
 [57692-68-9]

As Bis(η⁶-boratabenzene)iron, B-00651 with

R = (H₃C)₃C-

M 321.886

Red-orange solid. Mp 144-5°.

Ashe, A.J. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 6865 (*synth*, *pmr*, *nmr*, *uv*, *ms*, *mössbauer*, *pe*)

C₁₈H₂₉B**B-01080**

Bis(1,2-dimethylpropyl)(2-phenylethenyl)borane, 10Cl
2-Phenylethenyldisiamylborane. Bis(3-methyl-2-butyl)-(2-phenylethenyl)borane. Disiamylstyrylborane
 [66315-07-9]

[(H₃C)₂CHCH(CH₃)₂]₂BCH=CHPh

M 256.237

Prepd. *in situ* by reaction of disiamylborane with phenylacetylene (gives *trans*-isomer). Sol. THF.

Miyaura, N. *et al*, *J. Chem. Soc., Chem. Commun.*, 1979, **19**, 866 (*synth*)
 Miyaura, N. *et al*, *Tetrahedron Lett.*, 1979, 3437 (*synth*)
 Pelter, A. *et al*, *Comprehensive Organic Chemistry*, 1979, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, **3**, 695 (*rev*)
 Yatagai, H., *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1670.
 Miyaura, N. *et al*, *J. Organomet. Chem.*, 1982, **233**, C13.

C₁₈H₃₀BN**B-01081**

1,1-Dibutyl-N-(1-phenylbutylidene)boranamine, 10Cl, 9Cl
 [54948-32-2]

H₃CCH₂CH₂CPh=NB(CH₂CH₂CH₂CH₃)₂

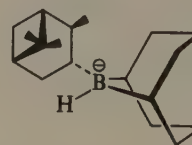
M 271.252

Air- and moisture-sensitive liq. d₄²⁰ 0.866. Bp_{1.0} 108-10°. n_D²⁰ 1.4949.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1974, 2389; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2307 (*synth*, *ir*, *nmr*)
 Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2053, 2756; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1924, 2566.
 Mikhailov, B.M. *et al*, *Khim. Elementoorg. Soedin*, 1976, **3**.

C₁₈H₃₁B[⊖]**B-01082**

9-Isopinocampheyl-9-borabicyclo[3.3.1]nonane
 [69102-10-9]



M 258.253 (ion)

H deriv.: [69102-10-9]. 1,5-Cyclooctanediylhydro(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)-borate(1-), 10Cl. B-Isopinocampheyl-9-borabicyclo[3.3.1]nonyl hydride. 9-Hydro-9-(3-pi-nanyl)-9-boratabicyclo[3.3.1]nonane.

C₁₈H₃₂B M 259.261

Chiral reducing agent.

Li salt: [64081-12-5].C₁₈H₃₁BLi M 265.194

Chiral reducing agent for ketones.

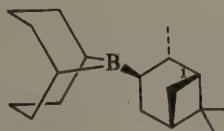
Krishnamurphy, S. *et al*, *J. Org. Chem.*, 1977, **42**, 2534 (*use*)Brown, H.C., *CA*, 1980, **92**, 68730t.Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*synth*, *nmr*)C₁₈H₃₁B

B-01083

9-(2,6,6-Trimethylbicyclo[3.1.1]hept-3-yl)-9-borabicyclo[3.3.1]nonane, 10Cl

B-3-Pinanyl-9-borabicyclo[3.3.1]nonane. B-Isopinocampheyl-9-BBN. Alpine-borane

[73624-47-2]

(1'*R*)-form

M 258.253

Useful chiral reducing agent for aldehydes and unhindered ketones. Commercially available.

(1'*R*)-form [64106-79-2]Liq., air-sensitive. Fp -17°. [α]_D²⁰ -3.0° (neat) (coml. sample).(1'*S*)-form [76695-88-0]Air-sensitive liq. Fp -17°. [α]_D²² +1.2° (neat) (coml. sample).Midland, M.M. *et al*, *J. Organomet. Chem.*, 1979, **182**, C53.Yamamoto, Y. *et al*, *Yuki Gosei Kagaku Kyokaiishi*, 1979, **37**, 1008; *CA*, **92** R139884j (*synth*, *use*, *props*)Midland, M.M. *et al*, *J. Org. Chem.*, 1981, **46**, 4107.Brown, H.C. *et al*, *J. Org. Chem.*, 1982, **47**, 1606.Midland, M.M. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 525, 528 (*synth*, *props*)C₁₈H₃₂B[⊖]

B-01084

Tributylphenylborate(1-), 10Cl, 9Cl

Phenyltributylborate



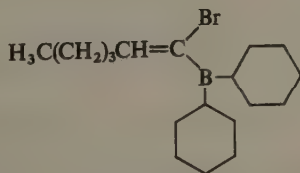
M 259.261 (ion)

Li salt: [54926-82-8].C₁₈H₃₂BLi M 266.202Prepd. *in situ* from tributylborane and PhLi. Air- and acid-sensitive. Sol. THF.Negishi, E. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 860.Negishi, E. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, 1225 (*ir*, *nmr*, *synth*)C₁₈H₃₂BBr

B-01085

1-Bromo-1-hexenyl)dicyclohexylborane, 10Cl

[67532-01-8]



M 339.165

Synthetic intermed. Sensitive to air.

Campbell, J.B. *et al*, *J. Organomet. Chem.*, 1978, **156**, 71 (*synth*)Masuda, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1652.C₁₈H₃₂BCl₂N

B-01086

Phenyldichloroborane tributylamine

Dichloro(N,N-dibutyl-1-butanamine)phenylboron, 10Cl.

Dichlorophenylborane tributylamine

[61133-58-2]



M 344.174

Formed in thermogravimetric analysis of appropriate tetraalkylammonium tetrahaloborate. Solid.

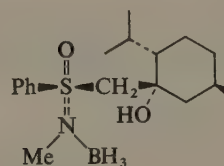
Sheikh, S.U., *Bull. Chem. Soc. Jpn.*, 1976, **49**, 2879.Sheikh, S.U., *Therm. Anal.*, 1977, 509.Sheikh, S.U., *J. Therm. Anal.*, 1980, **18**, 299 (*synth*)Sheikh, S.U. *et al*, *Pak. J. Sci. Ind. Res.*, 1980, **23**, 21, 23.C₁₈H₃₂BNO₂S

B-01087

Trihydro[5-methyl-2-(1-methylethyl)-1-[(N-methyl-S-phenylsulfonimidoyl)methyl]cyclohexanol-N]boron, 10Cl

5-Methyl-2-(1-methylethyl)-1-[(N-methyl-S-phenylsulfonimidoyl)methyl], compd. with borane(1:1)

[73808-91-0]



M 337.326

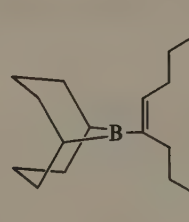
Chiral reducing agent, prepd. *in situ*.Johnson, C.R. *et al*, *Tetrahedron Lett.*, 1979, 4713.C₁₈H₃₃B

B-01088

9-(1-Butyl-1-hexenyl)-9-borabicyclo[3.3.1]nonane, 10Cl

9-(5-Decen-5-yl)-9-BBN

[69322-52-7]



M 260.269

Synthetic intermed. Sensitive to air.

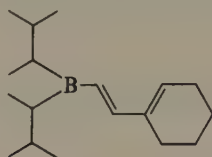
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 96.Yatagai, H. *et al*, *J. Org. Chem.*, 1979, **44**, 2566 (*pmr*)Yatagai, H., *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1670.

The symbol ► in Entries highlights hazard or toxicity information

C₁₈H₃₃B

B-01089

[2-(1-Cyclohexen-1-yl)ethenyl]bis(1,2-dimethylpropyl)borane, 10Cl
[2-(1-Cyclohexenyl)ethenyl]bis(3-methyl-2-butyl)borane. [2-(1-Cyclohexenyl)ethenyl]disiamylborane



M 260.269

(E)-form [64106-86-1]

Prepd. *in situ* from disiamylborane and cyclohexenylacetylene. Synthetic intermed. Prob. oil, air-sensitive.

Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 5192 (*synth*, *use*)

C₁₈H₃₃B

B-01090

Dicyclohexyl-1-hexenylborane, 10Cl

1-Hexenyldicyclohexylborane

[62594-04-1]

As Dicyclohexyl(methoxy)borane, B-00870 with



M 260.269

Liq., sensitive to air. Sol. THF.

(E)-form [37609-12-4]

Prepd. and used *in situ* by hydroboration of 1-hexyne with dicyclohexylborane. Synthetic intermed.

(Z)-form [56962-83-5]

Negishi, E. *et al*, *J. Organomet. Chem.*, 1975, **92**, C4 (*synth*, *nmr*)

Campbell, J.B. *et al*, *J. Organomet. Chem.*, 1978, **156**, 71 (*synth*, *nmr*)

Zweifel, G. *et al*, *J. Organomet. Chem.*, 1978, **156**, 159 (*synth*)

Yatagai, H. *et al*, *J. Org. Chem.*, 1979, **44**, 2566 (*nmr*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 550 (*use*)

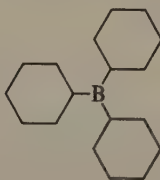
Campbell, J.B. *et al*, *J. Org. Chem.*, 1980, **45**, 549 (*use*)

C₁₈H₃₃B

B-01091

Tricyclohexylborane, 10Cl, 9Cl, 8Cl

[1088-01-3]



M 260.269

Prepd. by hydroboration of cyclohexene. Synthetic intermed., generally prepd. *in situ*. Air-sensitive solid. Sol. THF. Mp 118°. Bp_{0.6} 125-30°.

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1958, **618**, 31 (*synth*)

Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1965, **682**, 21 (*props*)

Finch, A.P.J. *et al*, *Trans Faraday Soc.*, 1967, **63**, 1880 (*props*)

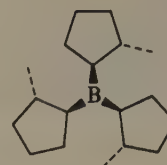
Brown, H.C. *et al*, *J. Org. Chem.*, 1973, **38**, 2422; 1981, **46**, 2712 (*synth*)

Manzer, L.E. *et al*, *Inorg. Chem.*, 1976, **15**, 3114 (*nmr*)

C₁₈H₃₃B

B-01092

Tris(2-methylcyclopentyl)borane, 10Cl, 9Cl
[51134-66-8]



M 260.269

trans,trans,trans-form [40911-83-9]

Prepd. by hydroboration of 1-methylcyclopentene with borane-THF. Reagent for transfer of 2-methylcyclopentyl group. Air-sensitive. Sol. THF, other non-hydroxylic solvs.

Leung, T. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 5620 (*use*)

Utimoto, K. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 5601 (*use*)

Zweifel, G. *et al*, *Synthesis*, 1975, 376 (*use*)

Pelter, A. *et al*, *J. Chem. Soc., Dalton Trans.*, 1976, 2087 (*use*)

Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 5561 (*use*)

Brown, C.A. *et al*, *J. Am. Chem. Soc.*, 1979, **101**, 3964 (*use*)

C₁₈H₃₃BO₃

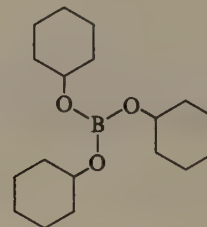
B-01093

Tricyclohexyloxyborane

Boric acid (H₃BO₃) tricyclohexyl ester, 10Cl, 9Cl, 8Cl.

Tris(cyclohexyloxy)borane. Tricyclohexyl borate. Tricyclohexyl orthoborate. Cyclohexyl borate

[2467-16-5]



M 308.267

Catalyst for oxidn. of cycloalkanes, gelling agent, sterilant for control of *Cochliomyia hominivorax*.

Solid, moisture-sensitive. Sol. non-hydroxylic solvs. Mp 56.4°. Bp₇₅₀ 323-6°, Bp₁₇ 201-3°.

Kustov, V.K. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1956, 733 (*synth*)

O'Brien, K.G., *Aust. J. Chem.*, 1957, **10**, 91 (*synth*, *props*)

Strauss, I. *et al*, *CA*, 1971, **74**, 69142t (*props*)

Maijs, L. *et al*, *CA*, 1973, **79**, 131073e (*pmr*)

Itskovich, V.A. *et al*, *CA*, 1978, **89**, 196672a (*use*)

Japan. Pat., 79 24 826, (1979); *CA*, **91**, 123403v (*synth*)

C₁₈H₃₃BS

B-01094

7-Pentyl-3-pentylthio-3-borabicyclo[3.3.1]non-6-ene, 10Cl

7-Amyl-3-amylthio-3-borabicyclo[3.3.1]non-6-ene

[67682-94-4]

As 7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]non-6-ene, B-00670 with



M 292.329

Air- and moisture-sensitive liq. Bp_{2.5} 174-6°. n_D²⁰ 1.5021.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1392 (*synth*, *nmr*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113
(*nmr*, *ir*)

C₁₈H₃₃B₃O₆

B-01095

Tris(cyclohexyloxy)boroxin, 10Cl, 9Cl, 8Cl

Cyclohexyl metaborate trimer. CHMB

[1172-69-6]

As Boroxin, B-00019 with

R = cyclohexyl

M 377.885

Used to induce dec. of alkyl hydroperoxides. Cryst.
(C₆H₆/pet. ether); moisture-sensitive. Mp 166-7°
(215-25°).

O'Connor, G.L. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 1578 (*synth*)

O'Brien, K.G. *et al*, *Aust. J. Chem.*, 1963, **5**, 915 (*synth*)

Steinberg, H., *Organoboron Chemistry*, 1964, Wiley, N.Y., Vol.
1.

Wolf, P.E. *et al*, *J. Org. Chem.*, 1975, **40**, 1875 (*synth*, *use*)

Dzhemilev, U.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*,

1979, 553; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 509 (*use*)

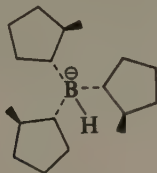
Won, P.L., *Nefiekhimiya*, 1980, **204**, 568; *CA*, **93**, 23844t.

C₁₈H₃₄B[⊖]

B-01096

Hydrotris(2-methylcyclopentyl)borate(1-), 10Cl, 9Cl

Tris(2-methylcyclopentyl)borohydride



M 261.277 (ion)

trans,trans,trans-form

Li salt: [60284-40-4].

C₁₈H₃₄B[⊖]Li⁺ M 268.218

Stereoselective reducing agent. Air- and moisture-sensitive.

Krishnamurthy, S. *et al*, *J. Am. Chem. Soc.*, 1976, **98**, 3383
(*synth*, *use*)

Hutchins, R.O., *J. Org. Chem.*, 1977, **42**, 920 (*props*, *use*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 5004 (*use*)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **166**, 271.

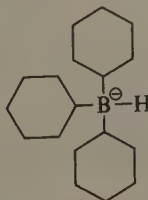
Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*synth*,
nmr)

C₁₈H₃₄B[⊖]

B-01097

Tricyclohexylhydroborate(1-), 10Cl

Tricyclohexylborohydride



M 261.277 (ion)

Li salt: [69786-43-2].

C₁₈H₃₄B[⊖]Li⁺ M 268.218

Not isolated in pure, solvent-free state. Prepd. *in situ*.

Stereoselective reducing agent. Air- and moisture-sensitive. Sol. THF.

Na salt: [67276-06-6].

C₁₈H₃₄BNa M 284.266

Prepd. *in situ*. Stereoselective reducing agent. Air- and moisture-sensitive. Sol. THF. Stable under dry N₂.

K salt: [63802-48-2].

C₁₈H₃₄BK M 300.375

Prepd. *in situ*. Stereoselective reducing agent. Air- and moisture-sensitive. Sol. THF. Indefinitely stable under dry N₂.

Strouf, O. *et al*, *Acta Chem. Scand., Ser. A*, 1977, **31**, 391
(*props*)

Brown, C.A. *et al*, *J. Organomet. Chem.*, 1978, **56**, 111 (*synth*,
ir, *nmr*)

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1978, **100**, 3343 (*synth*,
ir, *nmr*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 467, 5004 (*use*, *nmr*,
synth)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1979, **166**, 271 (*synth*,
props)

Brown, H.C. *et al*, *J. Organomet. Chem.*, 1980, **188**, 1 (*synth*,
nmr, *ir*)

C₁₈H₃₅B

B-01098

Dicyclohexyl(1-ethylbutyl)borane, 10Cl

Dicyclohexyl(3-hexyl)borane. (1-Ethylbutyl)dicyclohexylborane

[72487-19-5]

As Dicyclohexyl(methoxy)borane, B-00870 with

R = H₃CCH₂CH₂CH(CH₂CH₃)–

M 262.285

Prepd. *in situ* from dicyclohexylborane dimer and 3-hexene in diglyme at 0°. 3-Hexyl group transfer agent. Air-sensitive. Sol. THF.

Taniguchi, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 2942
(*synth*, *use*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 4313 (*synth*)

C₁₈H₃₅B

B-01099

Dicyclohexylhexylborane, 10Cl, 9Cl

Hexyldicyclohexylborane

[52251-52-2]

As Dicyclohexyl(methoxy)borane, B-00870 with

R = –(CH₂)₅CH₃

M 262.285

Prepd. *in situ* by hydroboration of 1-hexene with dicyclohexylborane. Synthetic intermed. for transfer of a hexyl group. Air-sensitive. Sol. THF.

Larock, R.C. *et al*, *J. Organomet. Chem.*, 1974, **67**, 353 (*use*)

Masuda, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1978, **51**, 901 (*use*)

Taniguchi, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 2942 (*use*)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton,
D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 4313 (*synth*)

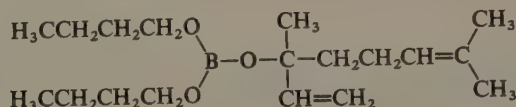
C₁₈H₃₅BO₃

B-01100

Dibutoxy(3,7-dimethyl-1,6-octadien-3-yloxy)borane

Boric acid (H₃BO₃) dibutyl 1-ethenyl-1,5-dimethyl-4-hexenyl ester, 10Cl

[76184-42-4]



M 310.283

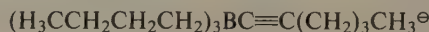
Moisture-sensitive.

Eur. Pat., 12 198, (1980); *CA*, **94**, 47554q (*synth, props*)
U.S.P., 4 254 291, (1981); *CA*, **95**, 81277g (*props*)

C₁₈H₃₆B[⊖]

B-01101

Tributyl-1-hexynylborate(1-), 10Cl, 9Cl



M 263.292 (ion)

Li salt: [42126-47-6].

C₁₈H₃₆BLi M 270.233

Prepd. *in situ* from tributylborane and hexynyllithium.

Synth. intermed. Prob. oil. Air- and acid-sensitive. Sol.

THF, glyme, diglyme.

Suzuki, A. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 3080 (*use*)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419, 2435 (*use*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 2633; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 2437 (*synth*)

Negishi, E. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, 1225 (*nmr, ir*)

C₁₈H₃₆BBr

B-01102

(1-Bromo-1-hexenyl)bis(2-methylpentyl)borane, 10Cl

[67532-04-1]



M 343.196

Synthetic intermed. Sensitive to air. Sol. THF.

Masuda, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1652.

C₁₈H₃₆BBr

B-01103

(1-Bromo-1-hexenyl)dihexylborane, 10Cl

[67532-03-0]



M 343.196

Synthetic intermed. Sensitive to air. Sol. THF.

Masuda, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1652.

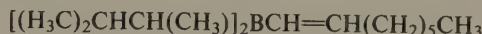
C₁₈H₃₇B

B-01104

Bis(1,2-dimethylpropyl)-1-octenylborane, 10Cl, 9Cl

1-Octenyldisiamylborane. Bis(3-methyl-2-butyl)-1-octenylborane

[41285-63-6]



M 264.300

Prepd. *in situ* from disiamylborane and 1-octyne (gives *trans*-isomer). Synthetic intermed. Air-sensitive. Sol. THF.

Kow, R. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 2715 (*synth*)

Miyaura, N., *et al*, *Tetrahedron Lett.*, 1979, 3437; 1980, 2865 (*synth*)

Miyaura, N. *et al*, *Chem. Lett.*, 1981, 879 (*synth*)

C₁₈H₃₉B

B-01105

Bis(1,2-dimethylpropyl)octylborane, 10Cl, 9Cl

Disiamyl-1-octylborane. Bis(3-methyl-2-butyl)octylborane

[32327-50-7]



M 266.316

Prepd. *in situ* by hydroboration of 1-octene with disiamylborane. Synthetic intermed. Sensitive to air. Sol. THF and other inert org. solvs.

Bigley, D.B. *et al*, *J. Inorg. Nucl. Chem.*, 1971, **33**, 1157 (*props*)
Org. Synth., 1973, **53**, 77 (*synth*)

Brown, H.C. *et al*, *Synthesis*, 1980, **2**, 151 (*synth*)

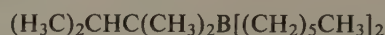
C₁₈H₃₉B

B-01106

Diheptyl(1,1,2-trimethylpropyl)borane, 10Cl, 9Cl

Diheptyl(2,3-dimethyl-2-butyl)borane. Thexyldiheptylborane. Diheptylthexylborane

[30038-49-4]



M 266.316

Prepd. *in situ* by reaction of 1-hexene with thexylborane. Synth. intermed., e.g. for prepn. of 7-tridecanone. Air-sensitive liq. Sol. THF.

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1975, 145 (*use*)

Pelter, A. *et al*, *Tetrahedron Lett.*, 1975, 1633 (*use*)

Arase, A. *et al*, *Chem. Lett.*, 1976, 1115 (*synth*)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)

C₁₈H₃₉B

B-01107

Triheptylborane, 10Cl, 9Cl, 8Cl

[1188-92-7]



M 266.316

Generally prepd. *in situ* by hydroboration of 1-hexene.

Synthetic intermed. used for transfer of 1-hexyl group.

Air-sensitive liq. Sol. THF and other relatively nonpolar solvs. *d*₂₀ 0.774. *Bp*₈ 112°. *n*_D²⁰ 1.4412.

McCusker, P.A. *et al*, *J. Am. Chem. Soc.*, 1955, **77**, 4253 (*synth*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1957, **22**, 1137 (*synth*)

Timofeeva, G.A., *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1967, 1152 (*props*)

Gal'chenko, G.L. *et al*, *Zh. Fiz. Khim.*, 1967, **41**, 2181 (*props*)
Org. Synth., 1973, **53**, 77 (*synth*)

Kabalka, G.W. *et al*, *J. Chem. Educ.*, 1976, **53**, 549 (*rev*)

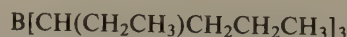
C₁₈H₃₉B

B-01108

Tris(1-ethylbutyl)borane, 10Cl, 9Cl, 8Cl

Tri-3-hexylborane

[1883-34-7]



M 266.316

Prepd. by hydroboration of 3-hexene. Synthetic intermed. Air-sensitive oil. Sol. C₆H₆, THF and other non-polar solvs. *Bp*_{0.5} 79-80°.

Fr. Pat., 1 393 282, (1965); *CA*, **63**, 4331h (*synth*)

Bigley, D.B. *et al*, *J. Chem. Soc. (B)*, 1970, 1811 (*use*)

Leung, T. *et al*, *J. Am. Chem. Soc.*, 1974, **96**, 5620 (*use*)

Zweifel, G. *et al*, *Synthesis*, 1975, 376 (*use*)

Larson, G.L. *et al*, *J. Organomet. Chem.*, 1980, **198**, 15 (*use*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1981, **46**, 4313 (*props*)

C₁₈H₃₉B

Tris(2-methylpentyl)borane, 10Cl, 9Cl, 8Cl
[1188-50-7]



M 266.316

Prepd. by hydroboration of 2-methyl-1-pentene. Synthetic intermed., usually prepd. *in situ*, for transfer of a 2-methylpentyl group. Air-sensitive liq. Sol. pentane, THF.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 1506 (*props*)

Negishi, E. *et al*, *J. Org. Chem.*, 1975, **40**, 814 (*props*)

Zweifel, G. *et al*, *Synthesis*, 1975, 376 (*use*)

Kabalka, G.W. *et al*, *J. Organomet. Chem.*, 1977, **125**, 273 (*props*)

Marinelli, E.R. *et al*, *Tetrahedron Lett.*, 1979, 2313 (*use*)

Kabalka, G.W. *et al*, *J. Org. Chem.*, 1981, **46**, 4296 (*synth*)

C₁₈H₃₉BO₃

Trihexyloxyborane

Boric acid (H₃BO₃) trihexyl ester, 10Cl, 9Cl. 1-Hexanol triester with boric acid (H₃BO₃). Trihexyl borate. Trihexyl orthoborate. Hexyl borate
[5337-36-0]



M 314.314

Gelling agent for liq. hydrocarbons, secondary plasticizer for vinyl chloride polymers; used in pharmaceutical aerosols; insect sterilant. Moisture-sensitive liq. d_4^{20} 0.847. Bp 310-1°, Bp₁₅ 182.2-183°. n_D^{20} 1.4250.

▷ED5120000.

Scattergood, A. *et al*, *J. Am. Chem. Soc.*, 1945, **67**, 2150 (*synth, props*)

Steinberg, H. *et al*, *Ind. Eng. Chem.*, 1957, **49**, 174 (*synth, props*)

Strauss, I. *et al*, *CA*, 1972, **77**, 145170e (*props*)

Brown, H.C. *et al*, *Synthesis*, 1979, 702 (*props*)

C₁₈H₄₂B₂N₂

Bis(2-methylcyclopentyl)borane tetramethylethylenediamine
Tetrahydrobis(2-methylcyclopentyl)[μ-(N,N,N',N'-tetramethyl-1,2-ethanediamine-N:N')]diboron, 10Cl



M 308.163

Convenient way of storing the otherwise unstable monoalkylborane.

trans-form [69319-82-0]

N,N,N',N'-Tetramethyl-1,2-ethanediamine compd. with *trans*-(2-methylcyclopentyl)borane(1:2)

Solid. Mp 123-4°.

Brown, H.C. *et al*, *J. Org. Chem.*, 1979, **44**, 465 (*nmr, synth*)

B-01109

C₁₉H₃BF₁₅[⊖]

Methyltris(pentafluorophenyl)borate(1-), 10Cl



M 527.019 (ion)

Li salt: [70083-57-7].

C₁₉H₃BF₁₅Li M 533.960

Used in battery electrolytes.

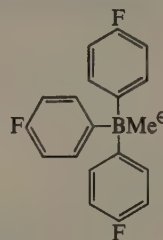
U.S.P., 4 139 681, (1979); *CA*, **90**, 207210 (*synth, props*)

Ger. Pat., 2 901 367, (1979); *CA*, **92**, 61799p (*synth*)

Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 131.

C₁₉H₁₅BF₃[⊖]

Tris(4-fluorophenyl)methylborate(1-), 10Cl



M 311.133 (ion)

Li salt: [78955-00-7].

C₁₉H₁₅BF₃Li M 318.074

Used in battery electrolytes.

Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 131 (*use, props*)

Klemann, L.P. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 179 (*props*)

B-01112

B-01113

B-01114

C₁₉H₁₅BFeO₂

Dicarbonyl(η⁵-2,4-cyclopentadien-1-yl)diphenylboraneiron
Dicarbonyl-π-cyclopentadienyl(diphenylboryl)iron, 8Cl.
Dicarbonyl(η⁵-cyclopentadienyl)iron(diphenylborane).
(η⁵-Cyclopentadienyl)dicarbonyl(diphenylboryl)iron
[12277-78-0]

As Dicarbonyl(η⁵-2,4-cyclopentadien-1-yl)-dichloroboraneiron, B-00462 with

X = Ph

M 341.983

Beige solid. Mp 113-6°.

Schmid, G. *et al*, *Chem. Ber.*, 1967, **100**, 2899 (*synth*)

C₁₉H₁₅BN[⊖]

(Cyano-C)triphenylborate(1-), 10Cl, 9Cl
Triphenylcyanoborate
[47107-21-1]



M 268.144 (ion)

Na salt: [14568-16-2]. *Cesignost*.

C₁₉H₁₅BNNa M 291.134

Used to separate Cs-137 and Be-7 in radioactive fallout and to detect Cs-137 in feed. Used in solvent extraction of alkali met

B-01115

als. Monohydrate. Commercially available.

Cs salt: [52337-56-1].

C₁₉H₁₅BCsN M 401.050

Nmr shift reagent. Analytical reagent for mechanistic studies.

Lee, D.A., *J. Inorg. Nucl. Chem.*, 1972, **34**, 2895 (use)

Bunge, M. *et al*, *Eur. Polym. J.*, 1977, **13**, 283 (use)

Pacey, G. *et al*, *Talanta*, 1980, **27**, 1013 (use)

Selig, W., *Microchem. J.*, 1980, **25**, 200.

Stankovic, S. *et al*, *CA*, 1980, **92**, 36885f (use)

C₁₉H₁₅BN₂O₂

B-01116

[2-[(2-Hydroxyphenyl)azo]-4-methylphenolato(2-)]phenylboron, 10Cl

[74302-86-6]

As [4-[(2-Hydroxyphenyl)azo]-1,3-benzenediolato(2-)]phenylboron, B-01050 with

R = CH₃, R' = H

M 314.150

Dark-red cryst. (pet. ether/C₆H₆). Mp 126°.

Hohaus, E. *et al*, *Z. Naturforsch.*, **B**, 1980, **35**, 316, 319 (ms, synth)

C₁₉H₁₇BNP

B-01117

Cyanoborane triphenylphosphine

(Cyano-C)dihydro(triphenylphosphine)boron, 10Cl. Boranecarbonitrile, compd. with triphenylphosphine(1:1)

[67374-60-1]

Ph₃P—BH₂CN

M 301.134

White solid. Mp 172-4°.

Martin, D.R. *et al*, *J. Inorg. Nucl. Chem.*, 1978, **40**, 9 (synth, nmr, ir)

Wisian-Nielson, P. *et al*, *J. Inorg. Nucl. Chem.*, 1981, **43**, 457 (props)

C₁₉H₁₈B[⊖]

B-01118

Methyltriphenylborate(1-), 10Cl

MeBPh₃[⊖]

M 257.161 (ion)

Li salt: [78885-82-2].

C₁₉H₁₈BLi M 264.102

Used in battery electrolytes. Air- and moisture-sensitive.

Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 131.

Klemann, L.P. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 179.

C₁₉H₁₉BN₂O

B-01119

Diphenyl[1-(2-pyridinylamino)ethanolato]boron, 10Cl, 9Cl

Diphenylboryl-[2-(α-hydroxyethyl)aminopyridinate]

[61300-57-0]

As Dipropyl[1-(2-pyridinylamino)-1-butanolato]boron, B-00967 with

R¹ = CH₃, R² = Ph

M 302.182

Cryst., mod. stable in air. Mp 165-8° dec.

Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1976, **116**, 135.

Dorokov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1587; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1458 (synth, ir, nmr, pmr)

C₁₉H₂₀BN₃

B-01120

Triphenylborane guanidine

(Guanidine-N'')triphenylboron, 10Cl. Guanidine compd. with triphenylborane(1:1)

[67007-35-6]

HN=C(NH₂)NH₂—BPh₃

M 301.197

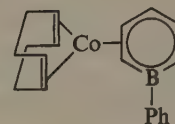
Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1978, **48**, 811 (synth)

C₁₉H₂₂BCo

B-01121

[(1,2,5,6-η)-1,5-Cyclooctadiene][(1,2,3,4,5,6-η)-1-phenylboratabenzene]cobalt, 10Cl

[69021-83-6]



M 320.126

Yellow-brown cryst. Mp 168-9°. ¹¹B nmr δ +20.9 (C₆D₆, reference BF₃·Et₂O).

Herberich, G.E. *et al*, *J. Organomet. Chem.*, 1978, **160**, 17 (synth, ms, nmr)

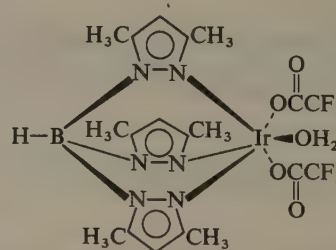
C₁₉H₂₄BF₆IrN₆O₅

B-01122

Aquabis(trifluoroacetato-O)[tris(3,5-dimethyl-1H-pyrazolato-N¹)hydroborato(1-)-N²,N^{2'},N^{2''}]iridium, 10Cl

[Hydrotris(3,5-dimethylpyrazolyl)borato]bis(trifluoroacetato)aquoiridium

[73117-36-9]



M 733.456

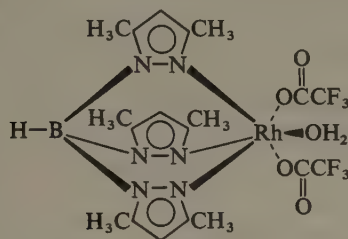
Pale-yellow needles (toluene). Mp 166-7°.

May, S. *et al*, *Inorg. Chem.*, 1980, **19**, 1582 (synth, pmr)

C₁₉H₂₄BF₆N₆O₅Rh

B-01123

Aquabis(trifluoroacetato-*O*)[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)hydroborato(1-)-*N*²,*N*^{2'},*N*^{2''}]rhodium, 10Cl
[Hydrotris(3,5-dimethylpyrazolyl)borato]bis(trifluoroacetato)aquorhodium
[73117-64-3]



M 644.142

Pale-yellow plates (CH₂Cl₂/hexane). Mp 231-3°.May, S. *et al*, *Inorg. Chem.*, 1980, **19**, 1582 (*synth*, *pmr*)C₁₉H₂₅B

B-01124

Methylbis(2,4,6-trimethylphenyl)borane, 10Cl
Dimesitylmethylborane. Methyl dimesitylborane
[74178-56-6]

As Fluorobis(2,4,6-trimethylphenyl)borane, B-01073
with

X = Me

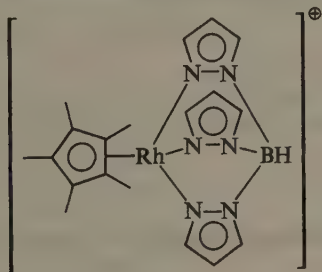
M 264.217

Prepd. from Fluorobis(2,4,6-trimethylphenyl)borane, B-01073 and methylmagnesium bromide. Synthetic intermed. Air-sensitive. Sol. THF, CHCl₃. Mp 78°. *pmr* 2.21 (s), 2.27 (s), 6.80 (s), 1.50 (s) ppm (CDCl₃).

Finocchiaro, P. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 7029 (*synth*, *pmr*)Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, **3**, 695 (*rev*)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **185**, 277 (*nmr*)Wilson, J.W. *et al*, *J. Organomet. Chem.*, 1980, **186**, 297 (*synth*)Pelter, A. *et al*, *Tetrahedron Lett.*, 1983, **24**, 625, 627 (*use*)C₁₉H₂₅BN₆Rh⁺

B-01125

[Hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*^{2'},*N*^{2''}](η⁵-pentamethylcyclopentadienyl)rhodium(1+)



M 451.162 (ion)

Hexafluorophosphate: [52015-82-4].

C₁₉H₂₅BF₆N₆PRh M 596.126Yellow, air-stable cryst. (CH₂Cl₂/Et₂O). Mp 220-7°.Restivo, R.J. *et al*, *Inorg. Chem.*, 1975, **14**, 3046 (*synth*, *ir*, *pmr*, *cryst struct*)C₁₉H₂₅BO

B-01126

Methoxybis(2,4,6-trimethylphenyl)borane

Bis(2,4,6-trimethylphenyl)borinic acid methyl ester, 10Cl, 9Cl. Dimesitylborinic acid methyl ester.

Dimesitylmethoxyborane

[50517-71-0]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075
with

R = OMe

M 280.216

Colourless cryst. solid, stable in air. Sol. most org. solvs.

Mp 75-6°. Slowly oxid. in soln.

Finocchiaro, P. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 7029 (*nmr*)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **193**, 271(synth, *nmr*, *cmr*)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*nmr*)C₁₉H₂₅BS

B-01127

(Methylthio)bis(2,4,6-trimethylphenyl)borane

Thiobis(2,4,6-trimethylphenyl)borinic acid methyl ester, 10Cl. Dimesityl(methylthio)borane. (Methylthio)-dimesitylborane

[77657-15-9]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075
with

R = -SMe

M 296.277

Moisture-sensitive white cryst. (pentane or pentane/
Et₂O). Mp 99-102°.

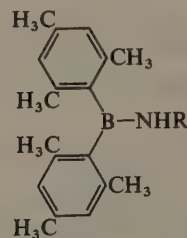
Davidson, F. *et al*, *J. Organomet. Chem.*, 1981, **204**, 147 (*synth*, *pmr*, *cmr*, *nmr*)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*cmr*)C₁₉H₂₆BN

B-01128

(Methylamino)bis(2,4,6-trimethylphenyl)borane

N-Methyl-1,1-bis(2,4,6-trimethylphenyl)boranamine, 10Cl. Dimesityl(methylamino)borane

[75018-25-6]



R = Me

M 279.231

Cryst. (hexane), moisture-sensitive. Sol. most org. solvs.

Mp 131-4°.

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **192**, 133 (*synth*, *nmr*, *ir*)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*cmr*)C₁₉H₃₃BS

B-01129

Dibutyl[1-(phenylthio)pentyl]borane, 10Cl, 9Cl

[67808-82-6]

(H₃CCH₂CH₂CH₂)₂BCH(SPh)CH₂CH₂CH₂CH₃

M 304.340

Synthetic intermed. Sensitive to air. Sol. THF.

Mendoza, A. *et al*, *J. Organomet. Chem.*, 1978, **156**, 149 (*synth*)
Mendoza, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 357.

C₁₉H₃₅BO **B-01130**

3-(Hexyloxy)-7-pentyl-3-borabicyclo[3.3.1]non-6-ene, 10Cl
7-Amyl-3-hexyloxy-3-borabicyclo[3.3.1]non-6-ene
[67682-96-6]

As 7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]-non-6-ene, B-00670 with

R = —O(CH₂)₅CH₃, R' = —(CH₂)₄CH₃

M 290.295

Liq., air- and moisture-sensitive. Bp₂ 159-60°. *n*_D²⁰ 1.4792.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1392 (*synth, nmr*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*nmr*)

C₁₉H₃₅BS **B-01131**

3-(Hexylthio)-7-pentyl-3-borabicyclo[3.3.1]non-6-ene, 10Cl
7-Amyl-3-hexylthio-3-borabicyclo[3.3.1]non-6-ene
[67682-95-5]

As 7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]-non-6-ene, B-00670 with

R = —S(CH₂)₅CH₃, R' = —(CH₂)₄CH₃

M 306.356

Air- and moisture-sensitive liq. Bp₂ 198-200°. *n*_D²⁰ 1.5002.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1594; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1392 (*synth, nmr*)

Mikhailov, B.M. *et al*, *J. Organomet. Chem.*, 1978, **154**, 113 (*nmr*)

C₁₉H₃₈B[⊖] **B-01132**

Tributyl-1-heptynylborate(1-), 10Cl, 9Cl

(H₃CCH₂CH₂CH₂)₃BC≡C(CH₂)₄CH₃[⊖]

M 277.319 (ion)

Li salt: [43128-72-9].

C₁₉H₃₈BLi M 284.260

Prepd. *in situ* from tributylborane and heptynyllithium. Synth. intermed. Probably oil. Air- and acid-sensitive. Sol. THF, glyme, diglyme.

Naruse, M. *et al*, *Tetrahedron Lett.*, 1973, 795, 2741 (*use*)

Naruse, M. *et al*, *Tetrahedron*, 1974, **30**, 835 (*use*)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419 (*props, synth*)

Hara, S. *et al*, *Chem. Lett.*, 1980, 221 (*use*)

C₁₉H₃₈BO[⊖] **B-01133**

(Ethoxyethynyl)tripentylborate(1-), 10Cl
(Ethoxyethynyl)tripentylboranate

[H₃C(CH₂)₄]₃BC≡COEt[⊖]

M 293.319 (ion)

Li salt: [65684-82-4].

C₁₉H₃₈BLiO M 300.260

Prepd. *in situ* from ethoxyethynyllithium and tripentylborane. Synthetic intermed.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 2633; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **26**, 2437 (*props*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 855; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, **28**, 799 (*synth*)

C₁₉H₄₂B[⊖] **B-01134**

Trihexylmethylborate(1-), 10Cl, 9Cl
Methyltriethylborate

[H₃C(CH₂)₅]₃BM[⊖]

M 281.351 (ion)

Cu(I) salt: [59560-23-5].

C₁₉H₄₂BCu M 344.897

Prepd. *in situ*. Used in synth. of hexyl aryl ketones and other compds.

Miyaura, N. *et al*, *Bull. Chem. Soc. Jpn.*, 1977, **50**, 2199 (*synth, props*)

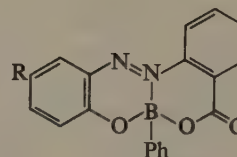
Miyaura, N. *et al*, *Tetrahedron Lett.*, 1977, 173 (*use*)

Yamada, K. *et al*, *Bull. Chem. Soc. Jpn.*, 1979, **52**, 275 (*props*)

C₂₀H₁₅BN₂O₃ **B-01135**

[2-[(2-Hydroxy-5-methylphenyl)azo]benzoato(2-)]phenylboron, 10Cl

[74300-64-4]



R = CH₃

M 342.160

Red-violet to brown-violet cryst. (C₆H₆). Mp 196°.

Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316, 319 (*ms, synth, nmr, ir*)

C₂₀H₁₅BN₂O₄ **B-01136**

[2-[(2-Hydroxy-5-methoxyphenyl)azo]benzoato(2-)]phenylboron, 10Cl

[74300-65-5]

As [2-[(2-Hydroxy-5-methylphenyl)azo]benzoato(2-)]phenylboron, B-01135 with

R = OMe

M 358.160

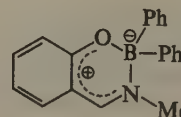
Violet cryst. Mp 251°.

Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316, 319 (*ms, synth, nmr, ir*)

C₂₀H₁₈BNO **B-01137**

[2-[(Methylimino)methyl]phenolato-N,O]diphenylboron, 10Cl, 9Cl

[54721-42-5]



M 299.178

Solid. Mp 179-80°.

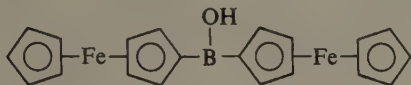
Hohaus, E. *et al*, *Z. Naturforsch.*, **B**, 1974, **29**, 663; 1976, **31**, 324.
 Bregadze, V.I. *et al*, *J. Organomet. Chem.*, 1980, **192**, 1 (*uv, ir, struct*)
 Hohaus, E., *Monatsh. Chem.*, 1980, **111**, 863.

C₂₀H₁₉BF₂O

B-01138

Diferrocenylhydroxyborane

Diferrocenylborinic acid, 8Cl. (Borinic acid)diferrocene



M 397.874

Air-stable orange-red cryst. Mp 159-61°.

Post, E.W. *et al*, *Inorg. Chem.*, 1970, **9**, 1670 (*synth, ms, pmr, ir*)C₂₀H₂₄BO₄⁹

B-01139

Bis(4-*tert*-butyl-1,2-benzenediolato)borate

Bis[4-(1,1-dimethylethyl)-1,2-benzenediolato(2-)-O,O']borate(1-), 10Cl

As Bis[1,2-benzenediolato(2-)-O,O']borate(1-), B-00757 with



M 339.217 (ion)

Na salt: [67494-93-3].

C₂₀H₂₄BO₄Na M 362.207

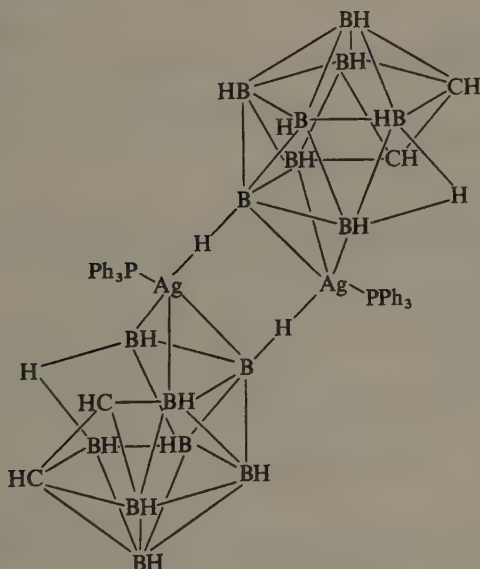
Isocyanate polymerisation catalyst.

Ger. Pat., 2 754 011, (1978); *CA*, **89**, 111249v (*use*)U.S.P., 4 151 334, (1979); *CA*, **91**, 21447v (*use*)C₂₀H₂₆AgB₈P

B-01140

Triphenylphosphine[(7,8,9- η)undecahydro-5,6-dicarbadeborato(1-)]silver

[74354-46-4]



M 491.747

Dimeric in solid state with two *arachno*-AgC₂B₈ cages linked by a pair of Ag—H—B bridges.

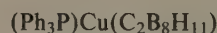
Dimer: 11-Bis[triphenylphosphine-11-argenta-5,6-dicarbundecaborane(11)].

C₄₀H₅₂Ag₂B₁₆P₂ M 983.494Cream cryst. (CHCl₃/hexane). Sol. CHCl₃.Colquhoun, H.M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 192 (*synth, nmr, cryst struct*)C₂₀H₂₆B₈CuP

B-01141

(Triphenylphosphine)[(7,8,9- η)undecahydro-5,6-dicarbadeborato(1-)]copper, 10Cl

[74354-44-2]



M 447.425

Struct. not known. Bright-yellow cryst. (Me₂CO). Sol. Me₂CO.Colquhoun, H.M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 192 (*synth, nmr*)C₂₀H₂₇B

B-01142

Ethylbis(2,4,6-trimethylphenyl)borane, 10Cl, 9Cl

Ethylidimesitylborane

[50517-74-3]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with



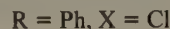
M 278.243

Prepd. from EtMgBr in Et₂O and fluorodimesitylborane. White needles, sensitive to air. Sol. CS₂. Mp 77-8°.Finocchiaro, P. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 7029 (*synth*)Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **185**, 277; 1981, **209**, 1 (*nmr*)C₂₀H₂₇BClN₃O

B-01143

Dibutyl(5-chloro-2-imino-*N*-phenyl-1(2*H*)-pyridinecarboxamidato-*N*^{N'},*N*²)boron, 10Cl

[71231-70-4]

As Dibutyl(5-chloro-2-imino-*N*-methyl-1(2*H*)-pyridinecarboxamidato-*N*^{N'},*N*²)boron, B-00959 with

M 371.716

Exists as intramol. coord. complex. Possesses some antiviral activity. Cryst. (EtOH).

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1085; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1014 (*synth, ir, nmr*)Mikhailov, B.M. *et al*, *Khim.-Farm. Zh.*, 1982, **16**, 695.C₂₀H₂₇BS

B-01144

(Ethylthio)bis(2,4,6-trimethylphenyl)borane

Thiobis(2,4,6-trimethylphenyl)borinic acid ethyl ester, 10Cl. (Ethylthio)dimesitylborane

[77657-16-0]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with



M 310.303

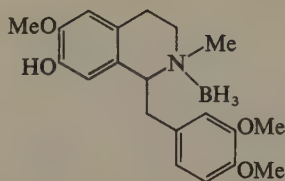
Moisture-sensitive white cryst. (pentane or pentane/Et₂O). Mp 102-4°.

Davidson, F. *et al*, *J. Organomet. Chem.*, 1981, **204**, 147 (*synth*, *pmr*, *cmr*, *nmr*)

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*cmr*)

C₂₀H₂₈BNO₄**B-01145**

[1-[(3,4-Dimethoxyphenyl)methyl]-1,2,3,4-tetrahydro-6-methoxy-2-methyl-7-isoquinolinol-*N*²]trihydroboron, 10Cl
[61659-89-0]

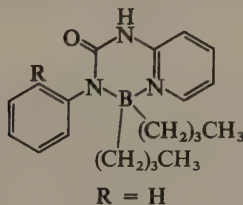


M 357.256

Colourless amorph. solid.

Kupchan, S.M. *et al*, *J. Org. Chem.*, 1978, **43**, 4076 (*synth*, *ms*)**C₂₀H₂₈BN₃O****B-01146**

Dibutyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N'*)boron, 10Cl
[71521-36-3]



R = H

M 337.271

Dimeric in C₆H₆. Shows some antiviral activity. Cryst. (heptane). Mp 143-6°.

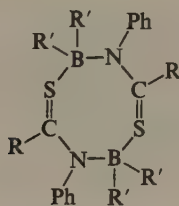
Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1340; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1253 (*synth*, *nmr*)

Tolstikov, G.A. *et al*, *CA*, 1981, **95**, P114910p.

Lagutkin, N.A. *et al*, *Khim.-Farm. Zh.*, 1982, **16**, 695.

C₂₀H₂₈B₂N₂S₂**B-01147**

Tetramethylbis[*N*-(*N*-phenylethanethioamidato-*N:S*)]diboron, 10Cl
[63835-74-5]

R = R' = CH₃

M 382.195

Liq. Sol. CH₂Cl₂. Bp_{0.05} 82°.

Maringgele, W. *et al*, *J. Organomet. Chem.*, 1977, **141**, 241 (*synth*, *nmr*, *ms*)

Maringgele, W. *et al*, *Monatsh. Chem.*, 1977, **108**, 751.

C₂₀H₂₉B**B-01148**

Dicyclohexyl(2-phenylethenyl)borane, 10Cl
2-Phenylethenyldicyclohexylborane.
Dicyclohexylstyrylborane

As Dicyclohexyl(methoxy)borane, B-00870 with

R = —CH=CHPh

M 280.259

(*E*)-form [62072-25-7]

Prepd. *in situ* from dicyclohexylborane and phenylacetylene in THF. Synthetic intermed. for transfer of a phenylethenyl group. Air-sensitive. Sol. THF.

Zweifel, G., *J. Am. Chem. Soc.*, 1971, **93**, 3395 (*synth*)

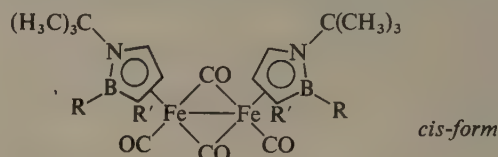
Zweifel, G. *et al*, *J. Organomet. Chem.*, 1976, **117**, 303 (*ir*, *nmr*, *uv*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 550 (*use*)

Yatagai, H., *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1670 (*use*)

C₂₀H₃₀B₂Fe₂N₂O₄**B-01149**

Di- μ -carbonyldicarbonylbis[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]-diiron, 10Cl
Tetracarbonylbis(η^5 -1-tert-butyl-2-methyl-1,2-azaborol-3-yl)diiron



R = Me, R' = H

M 495.782

Two isomers which interconvert in soln.

cis-form [75325-34-7]

Characterised spectroscopically.

trans-form [75364-55-5]

Dark-red cryst. (toluene/pet. ether).

Schulze, J. *et al*, *J. Organomet. Chem.*, 1980, **193**, 83 (*synth*, *ms*, *ir*, *pmr*, *nmr*)

C₂₀H₃₂B[⊖]**B-01150**

Tributyl(phenylethynyl)borate(1-), 10Cl, 9Cl

(H₃CCH₂CH₂CH₂)₃BC≡CPh[⊖]

M 283.283 (ion)

Li salt: [42033-93-2].C₂₀H₃₂B[⊖]Li M 290.224Prepd. *in situ* from tributylborane and PhC≡CLi.

Synth. intermed. Air- and acid-sensitive. Sol. THF.

Naruse, M. *et al*, *Tetrahedron Lett.*, 1973, 795 (*use*)

Miyaura, N. *et al*, *Tetrahedron Lett.*, 1974, 2961 (*props*)

Naruse, M. *et al*, *Tetrahedron*, 1974, **30**, 835, 2159 (*use*)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2435 (*props*)

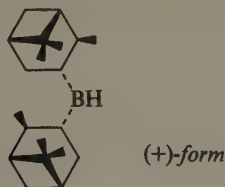
Hara, S. *et al*, *Chem. Lett.*, 1980, 221 (*synth*)

C₂₀H₃₅B

B-01151

Diisopinocampheylborane

Bis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)borane, 10Cl,
9Cl. Di-3-pinanylborane, 8Cl
[1091-56-1]



M 286.307

Exists as dimer in uncomplexed state. Generally prepd. *in situ* by hydroboration of α -pinene.

(+) **-form** [21947-87-5]

Prepd. from (–) α -pinene. Chiral hydroborating and reducing agent.

Dimer:

C₄₀H₇₀B₂ M 572.613

Air- and moisture-sensitive cryst. solid. Sol. THF.

(–) **-form** [21932-54-7]

Obt. from (+) α -pinene. Chiral hydroborating and reducing agent.

Dimer: Air- and moisture-sensitive cryst. solid. Sol. THF.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 393 (*synth, struct*)

Lee, J.B. *et al*, *Tetrahedron*, 1967, **23**, 2789.

Grundson, M. *et al*, *J. Chem. Soc. (C)*, 1971, 2560 (*synth, use*)

Herz, J. *et al*, *J. Chem. Soc. (C)*, 1971, 3504 (*synth*)

Crawford, R.J. *et al*, *Can. J. Chem.*, 1973, **51**, 3718 (*use*)

Brown, H.C. *et al*, *J. Org. Chem.*, 1978, **43**, 4395; 1981, **46**, 4541 (*use*)

Ruethmann, A. *et al*, *Helv. Chim. Acta*, 1980, **63**, 1456 (*use*)

C₂₀H₃₅BO₂

B-01152

9-(10-Methoxycarbonyl-1-decenyl)-9-borabicyclo[3.3.1]nonane

11-(9-Borabicyclo[3.3.1]non-9-yl)-10-undecenoic acid methyl ester, 10Cl

[73062-43-8]

As 9-Bromo-9-borabicyclo[3.3.1]nonane, B-00539 with



M 318.305

Yatagai, H., *J. Org. Chem.*, 1980, **45**, 1640 (*synth*)

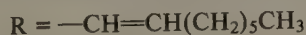
C₂₀H₃₇B

B-01153

Dicyclohexyl-1-octenylborane, 10Cl

1-Octenyldicyclohexylborane

As Dicyclohexyl(methoxy)borane, B-00870 with



M 288.322

(E) **-form** [62072-20-2]

Prepd. *in situ* from dicyclohexylborane and 1-octyne in THF. Synthetic intermed. for transfer of an octenyl group. Air-sensitive. Sol. THF.

Zweifel, G., *J. Am. Chem. Soc.*, 1971, **93**, 3395 (*synth, nmr*)

Zweifel, G. *et al*, *J. Organomet. Chem.*, 1976, **117**, 303 (*uv, pmr, ir*)

Negishi, E. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, 1225 (*use*)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, **3**, 695 (*rev*)

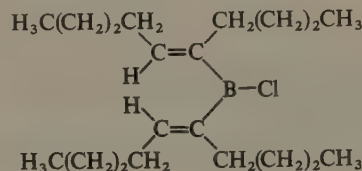
Singaram, B. *et al*, *Heterocycles*, 1981, **15**, 231 (*use*)

C₂₀H₃₈BCl

B-01154

Bis(1-butyl-1-hexenyl)chloroborane, 10Cl

Chlorobis(5-decenyl)borane



M 324.783

(Z,Z) **-form** [64323-54-2]

Air- and moisture-sensitive liq. Bp_{0.005} 110-5°.

Yamamoto, Y. *et al*, *J. Am. Chem. Soc.*, 1977, **99**, 5652 (*synth, pmr*)

Yamamoto, Y. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, **16**, 702 (*synth*)

Yatagai, H. *et al*, *J. Org. Chem.*, 1979, **44**, 2566 (*pmr*)

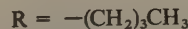
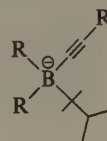
C₂₀H₄₀B[⊖]

B-01155

Dibutyl-1-hexynyl(1,1,2-trimethylpropyl)borate(1–), 10Cl, 9Cl

Dibutylhexynylthexylborate.

Thexyldibutylhexynylborate



M 291.346 (ion)

Li salt: [56556-79-7].

C₂₀H₄₀B[⊖]Li M 298.287

Synthetic intermediate, prepared *in situ*. No phys. props. reported.

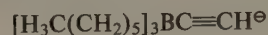
Pelter, A. *et al*, *Tetrahedron Lett.*, 1975, 1633 (*synth, props*)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419, 2435 (*synth, props*)

C₂₀H₄₀B[⊖]

B-01156

Ethynyltriheptylborate(1–), 10Cl



M 291.346 (ion)

Li salt: [62349-87-5].

C₂₀H₄₀B[⊖]Li M 298.287

Synthetic intermed.

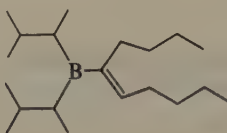
Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 5017 (*synth*)

Utimoto, K. *et al*, *Tetrahedron Lett.*, 1976, 3969 (*synth, props*)

C₂₀H₄₁B

B-01157

(1-Butyl-1-hexenyl)bis(1,2-dimethylpropyl)borane, 10Cl
5-Decenylbis(3-methyl-2-butyl)borane. (5-Decenyl)-disiamylborane



M 292.354

(Z)-form [69082-89-9]

Formed by hydroboration of 5-decyne with disiamylborane. Synthetic intermed. Air-sensitive oil. Sol. THF.

Yatagai, H. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 702 (synth, props)

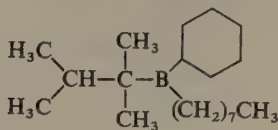
Yatagai, H. *et al*, *J. Org. Chem.*, 1979, **44**, 2566 (pmr)

Yatagai, H., *Bull. Chem. Soc. Jpn.*, 1980, **53**, 1670 (synth, props)

C₂₀H₄₁B

B-01158

Cyclohexyloctyl(1,1,2-trimethylpropyl)borane, 10Cl
Cyclohexyl(2,3-dimethyl-2-butyl)octylborane. Cyclohexyloctylthexylborane. Thexylcyclohexyloctylborane [62594-03-0]



M 292.354

Prepd. from thexylborane-PhNEt₂ and cyclohexene then 1-octene. Synthetic intermed., e.g. for prepn. of 1-cyclohexylnonanone. Oil, sensitive to air. Stable to disproportionation for considerable periods. Sol. THF.

Negishi, E. *et al*, *Synthesis*, 1974, 77 (rev)

Kabalka, G.W. *et al*, *J. Organomet. Chem.*, 1977, **125**, 273.

Pelter, A. *et al*, *Tetrahedron Lett.*, 1978, 4715 (synth, use)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, 3, 695 (rev)

C₂₀H₄₃BO₁₀

B-01159

(2-Butoxyethoxy)bis(1,4,7,10-tetraoxaundecyl)borane
Boric acid (H₃BO₃) 2-butoxyethyl bis[2-[2-(2-methoxyethoxy)ethoxy]ethyl] ester, 10Cl [74198-17-7]



M 454.364

Used in brake fluids for automobiles. Moisture-sensitive.

Ger. Pat., 2 831 538, (1980); CA, **93**, 134858q (use)

U.S.P., 4 192 759, (1980); CA, **94**, 86976y (synth, use)

C₂₀H₄₄B⁺

B-01160

Tetrakis(3-methylbutyl)borate(1-), 10Cl, 9Cl
Tetraisopentylborate(1-), 8Cl. Tetraisoamylborate. Tetraisoamylboride



M 295.378 (ion)

Tetrakis(3-methylbutyl)ammonium salt: [25397-17-5].

Tetraisopentylammonium tetraisopentylborate.

Tetraisoamylammonium tetraisoamylborate.

C₄₀H₈₈BN M 593.952

Reference electrolyte. Large nonhygroscopic cryst. (Me₂CO aq.). Sol. Me₂CO, MeCN, MeNO₂, sl sol. MeOH. Mp 181°.

Coetzee, J. *et al*, *J. Am. Chem. Soc.*, 1964, **86**, 3403 (synth, props, use)

Arrington, D.E. *et al*, *J. Phys. Chem.*, 1970, **74**, 123 (use, props)

Prock, A. *et al*, *J. Phys. Chem.*, 1970, **74**, 2408 (props)

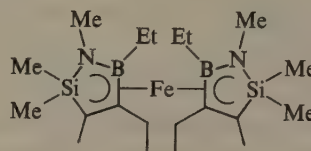
Jansen, M.L. *et al*, *J. Phys. Chem.*, 1973, **77**, 3089 (props)

Lichtin, N.N. *et al*, *J. Phys. Chem.*, 1980, **84**, 2398; 2946 (props)

C₂₀H₄₄B₂FeN₂Si₂

B-01161

Bis[(3,4-η)-4,5-diethyl-1,2,2,3-tetramethyl-1-aza-2-sila-5-boracyclopent-3-ene-B⁵,N¹]iron
Bis(η⁴-4,5-diethyl-1,2,2,3-tetramethyl-1,2,5-azasilaboroline)iron [81923-59-3]



M 446.219

Paramagnetic 16-electron complex. Dark-red cryst. Bp_{0.001} 40° subl.

Köster, R. *et al*, *Chem. Ber.*, 1982, **115**, 738 (synth, ms)

C₂₁H₉B₃F₁₅N₃

B-01162

1,3,5-Trimethyl-2,4,6-tris(pentafluorophenyl)borazine, 10Cl [2723-57-1]

As 2,4,6-Tribromoborazine, B-00015 with

X = C₆F₅, Y = Me

M 620.728

Solid. Mp 275°. Bp₉ 245° subl.

Meller, A. *et al*, *Monatsh. Chem.*, 1965, **96**, 388 (synth, ir)

Wrackmeyer, B. *et al*, *Chem. Ber.*, 1976, **109**, 3480 (nmr)

Nöth, H. *et al*, *Chem. Ber.*, 1981, **114**, 1150 (nmr, cmr)

C₂₁H₂₁B

B-01163

Tribenzylborane, 8Cl
Tris(phenylmethyl)borane, 10Cl, 9Cl [1694-84-4]



M 284.207

Prepd. from PhCH₂MgBr and BF₃ in Et₂O. Synthetic intermed. Air- and moisture-sensitive solid. Sol. THF, Et₂O. Mp 51°. Bp₂ 152.4°.

Kacheishvili, G.E. *et al*, *Zh. Obshch. Khim.*, 1965, **35**, 484 (synth)

Ramsey, B.G. *et al*, *J. Am. Chem. Soc.*, 1972, **94**, 4227 (uv)

Zetta, L. *et al*, *Org. Magn. Reson.*, 1972, **4**, 585 (nmr)

Chung, V.V. *et al*, *Chem. Lett.*, 1976, 209 (props)

Manzer, L.E. *et al*, *Inorg. Chem.*, 1976, **15**, 3114 (deriv, nmr)

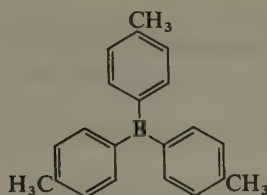
Jigajinni, V.B. *et al*, *Tetrahedron Lett.*, 1978, 181 (use)

C₂₁H₂₁B

Tris(4-methylphenyl)borane, 10Cl, 9Cl

Tri-p-tolylborane, 8Cl

[7297-94-1]



M 284.207

Synthetic intermed. Air-sensitive solid. Sol. THF.

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1975, **45**, 1511 (*derivs*)Manzer, L.E. *et al*, *J. Chem. Soc., Chem. Commun.*, 1975, 227 (*deriv*)Manzer, L.E. *et al*, *Inorg. Chem.*, 1976, **15**, 3114 (*nmr*, *deriv*)*Ger. Pat.*, 2 651 775, (1977); *CA*, **87**, 135880d (*synth*)*U.S.P.*, 4 134 923, (1979); *CA*, **90**, 121791 (*synth*, *use*)Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 885 (*synth*, *deriv*)

B-01164

Wuyts, M.H. *et al*, *Bull. Soc. Chim. Belg.*, 1939, **48**, 77 (*props*)Thomas, L.H. *et al*, *J. Chem. Soc.*, 1963, 612.Kondratov, V.K. *et al*, *Zh. Prikl. Khim.*, 1971, **44**, 1357; *CA*, **75**, 91736g (*use*)Fenwick, J.T.F. *et al*, *Inorg. Chem.*, 1975, **14**, 1602 (*props*)*Ger. Pat.*, 2 531 086, (1976); *CA*, **85**, 65537e (*use*)Sasaki, M. *et al*, *Bull. Chem. Soc. Jpn.*, 1977, **50**, 276.*Japan. Pat.*, 79 46 299, (1979); *CA*, **91**, 92493tC₂₁H₂₂BO₂P

(Ethoxycarbonyl)borane triphenylphosphine

(Ethoxycarbonyl)dihydro(triphenylphosphine)boron, 10Cl

[78315-29-4]

Ph₃P—BH₂COOEt

M 348.187

White cryst. solid. Mp 76-7°.

Wisian-Neilson, P. *et al*, *J. Inorg. Nucl. Chem.*, 1981, **43**, 457 (*synth*, *nmr*, *ir*)

B-01167

C₂₁H₂₃BNOP

N-Ethylcarbamoylborane triphenylphosphine

[(Ethylamino)carbonyl]dihydro(triphenylphosphine)-boron, 10Cl

[78315-27-2]

Ph₃P—BH₂CONHEt

M 347.203

White cryst. (Me₂CO aq.). Mp 112-6°.Wisian-Neilson, P. *et al*, *J. Inorg. Nucl. Chem.*, 1981, **43**, 457 (*synth*, *nmr*, *pmr*)

B-01168

C₂₁H₂₁BO₃

Tribenzyloxyborane

Boric acid (H₃BO₃) tris(phenylmethyl) ester, 10Cl, 9Cl.Boric acid (H₃BO₃) tribenzyl ester, 8Cl. Benzyl borate.

Tris(phenylmethoxy)borane

[2467-18-7]

(PhCH₂O)₃B

M 332.205

Insect sterilant for house-fly control, bactericide, fungicide, heat stabilizer for halogen-containing polymer blends. Moisture-sensitive liq. d₄²⁶ 1.095. Bp₂₀ 258-60°, Bp₃ 180.4-189.8°. n_D²⁵ 1.5546.

▷ED4850000.

Wuyts, M.H. *et al*, *Bull. Soc. Chim. Belg.*, 1939, **48**, 77 (*props*)
Kuskov, V.K. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1956, 733 (*synth*, *props*)Borkovec, A.B. *et al*, *J. Econ. Entomol.*, 1969, **62**, 1472 (*use*)Ogata, Y. *et al*, *J. Chem. Soc. (C)*, 1969, 2413 (*props*)*Ital. Pat.*, 932 322, (1972); *CA*, **86**, 43214r (*use*)*Japan. Pat.*, 79 138 047, (1979); *CA*, **92**, 129960s (*use*)

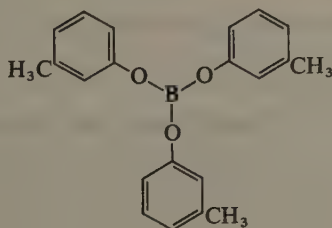
B-01166

C₂₁H₂₁BO₃

Tris(3-methylphenoxy)borane

Boric acid (H₃BO₃) tris(3-methylphenyl) ester, 10Cl, 9Cl.Boric acid (H₃BO₃) tri-m-tolyl ester, 8Cl. m-Tolyl borate. m-Cresyl borate. Tri-m-tolyl borate

[14750-98-2]



M 332.205

Used for separation of pyridine derivs., and in hydraulic fluids. Somewhat moisture-sensitive solid. d₄²⁰ 1.078 (calc.). Mp 56°. Bp 228°, Bp₃ 185-95°. n_D²⁰ 1.5555 (calc.).C₂₁H₂₄BN

Trimethylborane triphenylamine

(N,N-Diphenylbenzenamine)trimethylboron, 10Cl. N,N-Diphenylbenzenamine, compd. with trimethylborane(1:1)

[69809-43-4]

Ph₃N—BMe₃

M 301.237

Suggested for use in electrophotographic imaging.

Japan. Pat., 78 131 844, (1978); *CA*, **91**, P81565s*Japan. Pat.*, 78 131 845, (1978); *CA*, **91**, P81566t

B-01170

C₂₁H₂₄BN

Triphenylborane trimethylamine

(N,N-Dimethylmethanamine)triphenylboron, 9Cl. Triphenylborane compd. with trimethylamine(1:1), 8Cl. Trimethylamine, compd. with triphenylborane

[14480-40-1]

B-01171



M 301.237

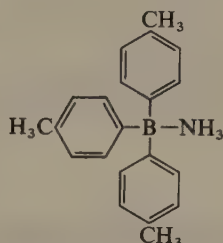
U.S.P., 3 062 708, (1962); CA, 58, P2797e
 U.S.P., 3 117 850, (1964); CA, 60, P16438b
 U.S.P., 3 268 401, (1966); CA, 65, P14362a
 Fr. Pat., 1 458 180, (1966); CA, 67, P11973d
 Borkovec, A.B. et al, J. Econ. Entomol., 1969, 62, 1472.
 Japan. Pat., 78 131 845, (1978); CA, 91, P81566t

C₂₁H₂₄BN

B-01172

Tris(4-methylphenyl)borane ammonia

Amminetris(4-methylphenyl)boron, 10Cl, 9Cl. Tri-p-tolylborane, compd. with NH₃(1:1). Tri-p-tolylborane monoammoniate. Tri-p-tolylborane ammonia [13586-42-0]



M 301.237

U.S.P., 3 062 708, (1962); CA, 58, P2797e
 Updegraff, D.M., J. Infect. Dis., 1964, 114, 304.
 U.S.P., 4 134 923, (1979); CA, 90, P121791a
 Ger. Pat., 3 015 007, (1980); CA, 94, P103550z

C₂₁H₂₄B₃N₃

B-01173

1,3,5-Trimethyl-2,4,6-triphenylborazine, 10Cl, 9Cl, 8Cl

N,N,N-Trimethyl-B,B,B-triphenylborazole [909-21-7]

As 2,4,6-Tribromoborazine, B-00015 with

X = Ph, Y = Me

M 350.871

Insect sterilant. Cryst. (C₆H₆/hexane). Insol. hexane.
 Mp 268-70°.

Smalley, J.H. et al, J. Am. Chem. Soc., 1959, 81, 582 (synth)
 Gerrard, W., Soc. Chem. Ind., 1961, 13, 328; CA, 56, 4939h (synth)

Steinberg, H. et al, Organoboron Chemistry, Vol. 2, Wiley, 1966, 175 (synth, props)

Totani, T. et al, Spectrochim. Acta, Part A, 1969, 25, 585 (ir)

Melcher, L.A. et al, Inorg. Chem., 1973, 12, 601 (ms)

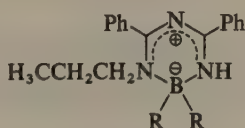
Nöth, H. et al, Chem. Ber., 1981, 114, 1150 (nmr, cmr)

C₂₁H₂₈BN₃

B-01174

[N-(Iminophenylmethyl)-N'-propylbenzenecarboximidamido-N'',N''']dipropylboron, 10Cl

Dipropylboryl(N-propylbenzimidoyl)benzamidinate [67574-91-8]

R = H₃CCH₂CH₂—

M 333.282

Cryst. Chemically and thermally stable, can be stored in air. Mp 63-6°.

Zolotarev, B.M. et al, Izv. Akad. Nauk SSSR, Ser. Khim., 1978, 1312; Bull. Acad. Sci. USSR, Div. Chem. Sci., 1140 (ms)

Mikhailov, B.M. et al, Izv. Akad. Nauk SSSR, Ser. Khim., 1978, 1385; Bull. Acad. Sci. USSR, Div. Chem. Sci., 1205 (synth, ms, nmr, pmr)

C₂₁H₂₉B

B-01175

Propylbis(2,4,6-trimethylphenyl)borane, 10Cl

Dimesitylpropylborane. Propyldimesitylborane [74178-57-7]

As Fluorobis(2,4,6-trimethylphenyl)borane, B-01073, with

X = H₃CCH₂CH₂—

M 292.270

Prepd. from propylmagnesium bromide and

Fluorobis(2,4,6-trimethylphenyl)borane, B-01073. Synthetic intermed. Solid, somewhat sensitive to air. Sol. THF. Mp 69°.

Finocchiaro, P. et al, J. Am. Chem. Soc., 1973, 95, 7029 (synth)
 Pelter, A. et al, Compr. Org. Chem., (Barton, D.H.R. et al, Ed.), 1979, 3, 695 (rev)

Brown, N.M.D. et al, J. Organomet. Chem., 1980, 185, 277; 1981, 209, 1 (nmr)

Pelter, A. et al, Tetrahedron Lett., 1983, 24, 625, 627 (use)

C₂₁H₂₉BO

B-01176

Isopropoxybis(2,4,6-trimethylphenyl)borane

Bis(2,4,6-trimethylphenyl)borinic acid 1-methylethyl ester, 10Cl. Dimesitylborinic acid 1-methylethyl ester. Isopropoxydimesitylborane [75260-11-6]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with

R = —OCH(CH₃)₂

M 308.270

Colourless cryst. solid, stable in air. Sol. most org. solvs. Mp 86-7°. Slowly oxid. in soln.

Brown, N.M.D. et al, J. Organomet. Chem., 1980, 193, 271 (synth, nmr, cmr)

Brown, N.M.D. et al, J. Organomet. Chem., 1981, 210, 1 (nmr)

C₂₁H₃₀BN

B-01177

(Isopropylamino)bis(2,4,6-trimethylphenyl)borane

N-(1-Methylethyl)-1,1-bis(2,4,6-trimethylphenyl)boranamine, 10Cl. Isopropylaminodimesitylborane [75018-26-7]

As (Methylamino)bis(2,4,6-trimethylphenyl)borane, B-01128 with

R = CH(CH₃)₂

M 307.285

White cryst. (pentane), stable to air. Sol. most solvs. Mp 83-5°.

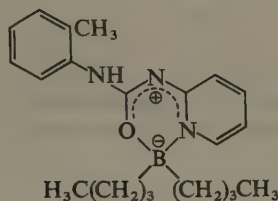
Brown, N.M.D. et al, J. Organomet. Chem., 1980, 192, 133 (synth, nmr, ir)

Brown, N.M.D. et al, J. Organomet. Chem., 1981, 210, 1 (cmr)

C₂₁H₃₀BN₃O

B-01178

Dibutyl[*N*-(2-methylphenyl)-*N'*-2-pyridinylureato-*N,N'*]-boron, 10Cl
[66199-95-9]



M 351.298

Relatively stable in air. Not dec. by H₂O or alcohols. Mp 80-1°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 253; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 224 (synth, ir, ms)

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1340; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1253 (synth, nmr, uv, ms)

C₂₁H₃₀BN₃O

B-01179

Dibutyl[*N*-(2-methylphenyl)-*N'*-2-pyridinylureato-*N,N'*,*O*]-boron, 10Cl
[66329-66-6]

As Dibutyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N'*)-boron, B-01146 with



M 351.298

Relatively stable in air, not dec. by H₂O or alcohols. Mp 162-6°.

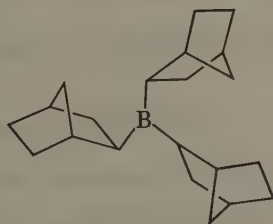
Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 253; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 224 (synth, ir, ms)

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1340; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1253 (synth, nmr, uv, ms)

C₂₁H₃₃B

B-01180

Tris(bicyclo[2.2.1]hept-2-yl)borane, 10Cl, 9Cl
Tri-2-norbornylborane, 8Cl
[14289-75-9]



M 296.302

exo,exo,exo-form [22801-27-0]

Obt. by hydroboration of norbornene at 25° with BH₃ in THF. Synthetic intermed., generally prepd. *in situ*, for transfer of a norbornyl group. Air-sensitive. Sol. THF.

Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 1506 (use)

Hughes, R.J. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1977, 1172 (use)

Hubbard, J. *et al*, *Synthesis*, 1978, 676 (synth, use)

Masuda, Y. *et al*, *Bull. Chem. Soc. Jpn.*, 1978, **51**, 901 (use)

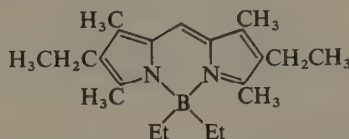
Ncube, S. *et al*, *Tetrahedron Lett.*, 1979, 1895 (use)

Kabalka, G.W. *et al*, *J. Org. Chem.*, 1981, **46**, 4296 (synth, use)

C₂₁H₃₃BN₂

B-01181

N,N'-Diethylboryl-3,3',5,5'-tetramethyl-4,4'-diethyl-2,2'-dipyrromethene
Diethyl[3-ethyl-5-[(4-ethyl-3,5-dimethyl-2H-pyrrol-2-ylidene)methyl]-2,4-dimethyl-1H-pyrrolato-*N*¹,*N*⁵]boron, 10Cl
[69646-58-8]



M 324.315

Used as a standard in the detection of solv. adducts of bilinoid pigments. Cryst. (C₆H₆/pet. ether); light-sensitive (may be handled safely in red light). Sol. MeCN, dioxan. Mp 114-7°.

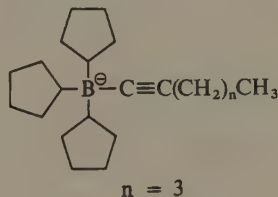
Holzwarth, A.R. *et al*, *Justus Liebigs Ann. Chem.*, 1978, 2002 (use)

Braslavsky, S.E. *et al*, *J. Chromatogr.*, 1981, **205**, 85 (use)

C₂₁H₃₆B[⊖]

B-01182

Tricyclopentyl-1-hexynylborate(1-), 10Cl, 9Cl
1-Hexynyltricyclopentylborate



M 299.325 (ion)

Li salt: [42126-50-1].

C₂₁H₃₆B[⊖]Li⁺ M 306.266

Prepd. *in situ* from tricyclopentylborane and hexynyllithium. Intermed. in synth. of alkynes and ketones. Air- and acid-sensitive. Sol. THF, glyme, diglyme.

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 544 (use)

Suzuki, A. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 3080 (synth, use)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419, 2428, 2435 (synth, props, use)

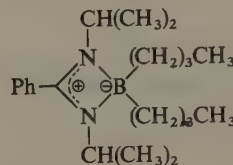
Hooz, J. *et al*, *Can. J. Chem.*, 1978, **56**, 2786.

Pelter, A. *et al*, *Tetrahedron Lett.*, 1981, **22**, 797.

C₂₁H₃₇BN₂

B-01183

Diisopropylbenzenecarboximidamido-*N,N'*-dibutylboron
[*N,N'*-Bis(1-methylethyl)benzenecarboximidamido-*N,N'*]dibutylboron, 10Cl
[69138-05-2]



M 328.347

Bp 122-3°.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2578; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2304 (synth, nmr)

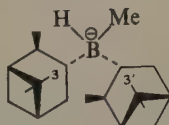
Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, **245**, 121 (synth)

C₂₁H₃₈B[⊖]

B-01184

Diisopinocampheylmethylhydroborate

Hydromethylbis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)borate(1-), 10Cl. Hydromethyldi-3-pinanylborate(1-), 8Cl



M 301.341 (ion)

Li salt: [34720-85-9].

C₂₁H₃₈BLi M 308.282

Chiral reducing agent. Air- and moisture-sensitive.

(3*R*,3'*R*)-form [33393-62-3]

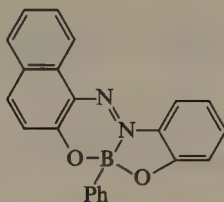
Grundon, M.F. *et al*, *J. Chem. Soc. (C)*, 1971, 2557, 2560
(*synth*, *use*)

U.S.P., 3 974 183, (1976); *CA*, **86**, 72219bU.S.P., 4 082 810, (1978); *CA*, **89**, 109936y (*synth*)C₂₂H₁₅BN₂O₂

B-01185

[1-(2-Hydroxyphenyl)azo]-2-naphthalenolato(2-)]phenylboron, 10Cl

[74302-92-4]



M 350.183

Mp 195°.

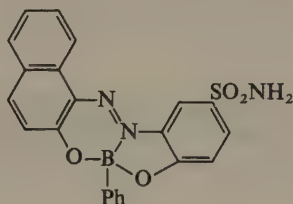
Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316, 319 (*ms*,
synth)

C₂₂H₁₆BN₃O₄S

B-01186

[4-Hydroxy-3-[(2-hydroxy-1-naphthalenyl)azo]benzenesulfonamidato(2-)]phenylboron, 10Cl

[74300-73-5]



M 429.256

Dark-red cryst. Mp 210-5°.

Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316, 319 (*synth*,
ir, *nmr*)

C₂₂H₁₉BN[⊖]

B-01187

Triphenyl-1*H*-pyrrol-1-ylborate(1-), 10ClAs Triethyl-1*H*-pyrrol-1-ylborate(1-), B-00692 with

R = Ph

M 308.209 (ion)

Li salt: [69346-64-1].

C₂₂H₁₉BLiN M 315.150

Used in battery electrolytes.

U.S.P., 4 104 450, (1978); *CA*, **90**, 124646t

Klemann, L.P. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 179
(*props*)

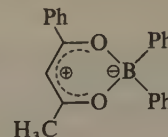
C₂₂H₁₉BO₂

B-01188

Diphenylboryl 1-phenyl-1,3-butanedionate

Diphenyl(1-phenyl-1,3-butanedionato-O,O')boron, 10Cl,
9Cl

[19426-81-4]



M 326.201

Used as a sensitizer for photoconductors.

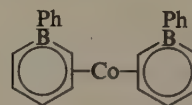
Trestianu, H. *et al*, *Tetrahedron*, 1968, **24**, 2499 (*pmr*)Barabas, A., *J. Coord. Chem.*, 1973, **3**, 91 (*nmr*)Halm, J.M., *CA*, 1977, **86**, 197878x.U.S.P., 4 123 268, (1978); *CA*, **90**, P95445uC₂₂H₂₀B₂Co

B-01189

Bis[(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt, 9Cl

Bis(1-phenylboratabenzene)cobalt

[36534-31-3]



M 364.953

Dark-red plates (hexane) or dark-brown cryst. Mp 70-1°,
191-2°. Paramagnetic.

Herberich, G.E. *et al*, *Chem. Ber.*, 1972, **105**, 3413 (*synth*, *ms*)

Herberich, G.E. *et al*, *J. Chem. Soc., Dalton Trans.*, 1975, 985
(*esr*)

Herberich, G.E. *et al*, *Chem. Ber.*, 1979, **112**, 607.C₂₂H₂₀B₂Fe

B-01190

Bis[(1,2,3,4,5,6- η)-1-phenylboratabenzene]iron, 9Cl

Bis(1-phenylborinato)iron

[54853-79-1]

As Bis[(1,2,3,4,5,6- η)-1-methylboratabenzene]iron, B-
00769 with

R = Ph

M 361.867

Red-orange air-stable cryst. (pentane). Mp 160-160.5°
(156-157.5°).

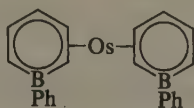
Herberich, G. *et al*, *Chem. Ber.*, 1974, **107**, 3780 (*synth*, *pmr*, *ir*,
ms)

Ashe, A.J. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 6865 (*synth*, *nmr*,
mössbauer, *uv*, *ms*)

C₂₂H₂₀B₂Os

B-01191

Bis[(1,2,3,4,5,6- η)-1-phenylboratabenzene]osmium, 9Cl
 Bis(1-phenylborinato)osmium
 [60764-69-4]



M 496.220

Colourless, air stable cryst. (pentane). Mp 146.5-147°.

Herberich, G.E. *et al*, *Chem. Ber.*, 1976, **109**, 2382 (*synth*, *pmr*, *nmr*, *ms*)C₂₂H₂₀B₂Ru

B-01192

Bis[(1,2,3,4,5,6- η)-1-phenylboratabenzene]ruthenium, 9Cl
 Bis(1-phenylborinato)ruthenium
 [60552-36-5]

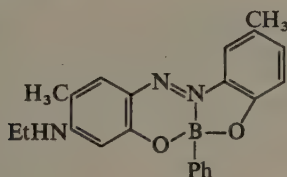
As Bis[(1,2,3,4,5,6- η)-1-methylboratabenzene]ruthenium, B-00770 with
 R = Ph

M 407.090

Air stable, colourless needles (pentane). Mp 136-136.5°.
Bp_{0.01} 140-60° subl.Herberich, G.E. *et al*, *Chem. Ber.*, 1976, **109**, 2382 (*synth*, *pmr*, *nmr*, *ms*)C₂₂H₂₂BN₃O₂

B-01193

[5-(Ethylamino)-2-[(2-hydroxy-5-methylphenyl)azo]-4-methylphenolato(2-)]phenylboron, 10Cl
 [74302-90-2]



M 371.245

Red-violet cryst. with gold-green lustre. Mp 222°.

Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316, 319 (*ms*, *synth*, *nmr*, *ir*)C₂₂H₂₃BN₂O

B-01194

Hydroxy[2-[[phenyl(phenylamino)methylene]amino]phenyl]-propylboron, 10Cl
 [70204-53-4]

As Hydroxy[2-[[1-(phenylamino)ethylidene]amino]phenyl]propylboron, B-01032 with
 R = Ph

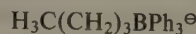
M 342.247

Colourless cryst. Sl. sol. org. solvs. Mp 190-201°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 174; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 163 (*synth*, *ir*)Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 411; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 380 (*tautom*, *ir*)C₂₂H₂₄B⁺

B-01195

Butyltriphenylborate(1-), 10Cl



M 299.242 (ion)

Li salt: [65859-86-1].C₂₂H₂₄BLi M 306.183

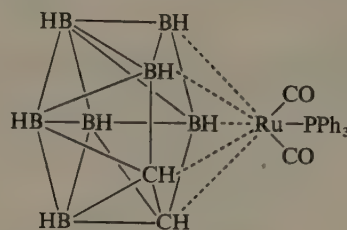
Potential component of battery electrolytes.

U.S.P., 4 060 674, (1977); *CA*, **88**, 107897s (*use*)Negishi, E. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, 1225 (*synth*, *cmr*)C₂₂H₂₄B₇O₂PRu

B-01196

Dicarbonyl[η^5 -nonahydrodicarbanonaborato(4-)](triphenylphosphine)ruthenium, 10Cl

closo-6,6-Dicarbonyl-6-triphenylphosphine-6-ruthenanonahydro-2,3-dicarbanonaborane
 [76601-70-2]



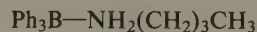
M 528.144

Yellow cryst. (C₆H₆/pentane).Jung, C.W. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 811 (*synth*, *ir*, *pmr*, *nmr*)C₂₂H₂₆BN

B-01197

Triphenylborane 1-butylamine

1-(1-Butanamine)triphenylboron, 10Cl, 9Cl. 1-Butanamine compd. with triphenylborane(1:1). 1-Butylamine triphenylborane
 [67616-29-9]



M 315.264

Wahab, M.A. *et al*, *Egypt J. Chem.*, 1975, **18**, 847 (*ir*)Wahab, M.A. *et al*, *Egypt J. Chem.*, 1976, **19**, 357 (*synth*)C₂₂H₂₆BN

B-01198

Triphenylborane 2-methylpropylamine

(2-Methyl-1-propanamine)triphenylboron, 10Cl. Isobutylamine compd. with triphenylborane(1:1), 8Cl. Triphenylborane isobutylamine
 [17520-38-6]



M 315.264

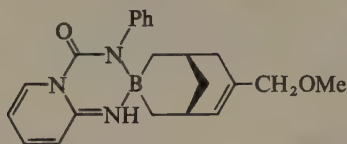
Solid. Mp 126-7°.

Korshak, V.V. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1963, 1645 (*synth*)Currell, B.R. *et al*, *J. Organomet. Chem.*, 1967, **8**, 411.Wahab, M.A. *et al*, *Egypt. J. Chem.*, 1975, **18**, 847; 1976, **19**, 357 (*ir*)

C₂₂H₂₆BN₃O₂

B-01199

N¹-[N-(7-Methoxymethyl-3-borabicyclo[3.3.1]non-6-en)-3-yl]-(N-phenylcarbamoyl)pyridon-2-iminate
(2-Imino-N-phenyl-1(2H)-pyridinecarboxamidato-N^{N1},N²)[[5-(methoxymethyl)-4-cyclohexene-1,3-diyl]-bis[methylene]]boron, 10Cl
[76014-65-8]



M 375.276

Solid (from yellow soln.). Mp 118-9°.

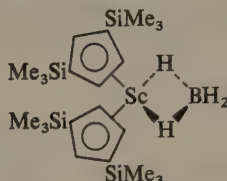
Buyanovskaya, A.G. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2106.

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1881; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1355 (synth, ms, ir, pmr)

C₂₂H₂₆BScSi₄

B-01200

Bis[(1,2,3,4,5-η)-1,3-bis(trimethylsilyl)-2,4-cyclopentadien-1-yl]tetrahydroboratoscandium



M 458.555

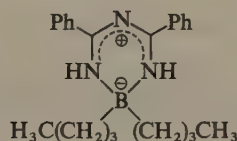
White cryst. Sol. pentane, THF. Mp 82-4°.

Lappert, M.F. *et al*, *J. Chem. Soc., Chem. Commun.*, 1983, 206 (synth, cryst struct, cmr, nmr, ir)

C₂₂H₃₀BN₃

B-01201

Dibutyl[N-(iminophenylmethyl)benzenecarboximidamidato-N¹,N^{N'}]boron, 10Cl
[34629-66-8]



M 347.309

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1971, **199**, 1328 (synth)

Mikhailov, B.M. *et al*, *Zh. Obshch. Khim.*, 1973, **43**, 862.

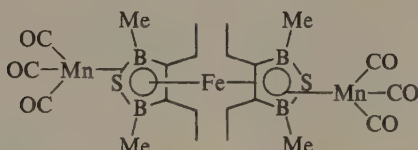
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1385; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1205.

Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1312; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1140 (ms)

C₂₂H₃₂B₄FeMn₂O₆S₂

B-01202

Hexacarbonylbis[μ-(1,2,3,4,5-η:1,2,3,4,5-η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole](iron)-dimanganese, 10Cl
[66921-70-8]



M 665.574

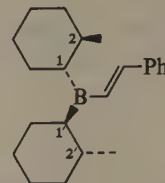
Orange-red cryst. (CS₂). Bp_{0.1} 140-60° subl. Darkens >155°, dec. at 210°.

Siebert, W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1978, **17**, 527 (synth, ir, ms, struct)

C₂₂H₃₃B

B-01203

Bis(2-methylcyclohexyl)(2-phenylethenyl)borane, 10Cl
[66315-08-0]



M 308.313

(1RS,1'RS,2RS,2'RS)-(E)-form

(±)-trans,trans,trans-form

Formed *in situ* by reaction of phenylethyne with bis(2-methylcyclohexyl)borane. Used in stereoselective synth. of corresp. E-alkene. Air-sensitive. Sol. THF.

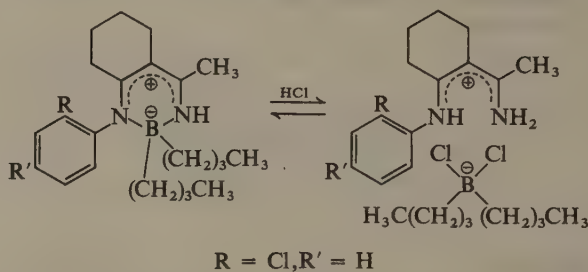
Yatagai, H. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 852 (synth)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, 1979, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, **3**, 695 (rev)

C₂₂H₃₄BClN₂

B-01204

Dibutyl[2-chloro-N-[2-(1-iminoethyl)cyclohexylidene]benzenaminato-N,N']boron, 10Cl
[64578-48-9]



M 372.787

Orange liq., relatively stable up to 120°. Bp₁ 184°. n_D²⁰ 1.5730.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1843; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1704 (synth, ir, nmr)

C₂₂H₃₄BClN₂

B-01205

Dibutyl[4-chloro-N-[2-(1-iminoethyl)cyclohexylidene]benzenaminato-N,N']boron, 10Cl
[64537-96-8]

As Dibutyl[2-chloro-N-[2-(1-iminoethyl)cyclohexylidene]benzenaminato-N,N']boron, B-01204 with

R = H, R' = Cl

M 372.787

Viscous orange liq., relatively stable up to 120°. Bp₃ 207-8°. n_D²⁰ 1.5768.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1843; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1704 (synth, ir, nmr)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2574; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2301.

C₂₂H₃₅BN₂

B-01206

Dibutyl[*N*-(2-(1-iminoethyl)cyclohexylidene)benzenaminato-*N,N'*]boron, 10Cl

Dibutyl(2-acetimidoyl-N-phenyl-1-cyclohexen-1-ylaminato)boron, 8Cl

[24172-91-6]

As Dibutyl[2-chloro-*N*-(2-(1-iminoethyl)-cyclohexylidene)benzenaminato-*N,N'*]boron, B-01204 with



M 338.342

Mp 63-6°. Bp₁ 186-7°. $\mu = 2.8D$.

B, 2*HCl*: [69109-15-5]. Poorly sol. most org. solvs. Mp 218-21° dec.

Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1969, 187, 1300 (*synth*, *ir*, *nmr*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1973, 2643.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1843; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1704 (*synth*, *ir*, *nmr*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2574; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2301.

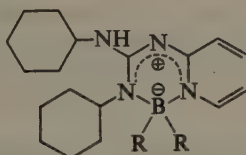
C₂₂H₃₇BN₄

B-01207

(*N,N''*-Dicyclohexyl-*N'*-2-pyridinylguanidinato-*N''*,*N''*)-diethylboron, 10Cl

*Diethylboryl 2-[(*N,N'*-dicyclohexylamidino)amino]-pyridinate*

[70426-42-5]



R = Et

M 368.371

Yellow cryst. (EtOH); stable in air and H₂O. Sol. C₆H₆. Mp 103-5°.

Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, 245, 121 (*synth*)

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 659; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 481 (*synth*, *ms*, *ir*)

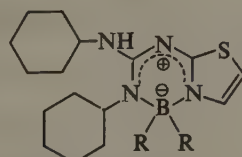
C₂₂H₃₉BN₄S

B-01208

(*N,N'*-Dicyclohexyl-*N''*-2-thiazolylguanidinato-*N,N''*)bis-(1-methylethyl)boron, 10Cl

*Diisopropylboryl 2-[(*N,N'*-dicyclohexylamidino)-amino]thiazolate*

[78798-72-8]



R = -CH(CH₃)₂

M 402.447

Yellow cryst. (EtOH); stable in air. Mp 131-4°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 869; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 649 (*synth*, *nmr*, *ir*, *ms*)

C₂₂H₄₁B

B-01209

(1-Butyl-1-hexenyl)dicyclohexylborane, 10Cl
(5-Decenyl)dicyclohexylborane

As (1-Butyl-1-hexenyl)dichloroborane, B-00691 with

X = Cyclohexyl

M 316.376

(*Z*)-*form* [69082-90-2]

Prepd. *in situ* from 5-decyne and dicyclohexylborane. *Synth. intermed.* Air-sensitive. Sol. THF.

Yatagai, H. *et al*, *J. Chem. Soc., Chem. Commun.*, 1978, 702 (*synth*, *props*)

Yatagai, H. *et al*, *J. Org. Chem.*, 1979, 44, 2566 (*pmr*)

C₂₂H₄₂BO⁺

B-01210

2-Furanyltrihexylborate(1-), 10Cl
2-Furyltrihexylborate

As 2-Furanyltripropylborate(1-), B-00867 with

R = -(CH₂)₅CH₃

M 333.383 (ion)

Li salt: [70415-41-7].

C₂₂H₄₂BLiO M 340.324

Synthetic *intermed.*, prepd. *in situ*.

Akimoto, I. *et al*, *Synthesis*, 1979, 146 (*synth*)

C₂₂H₄₃B

B-01211

Di-1-octenyl(1,1,2-trimethylpropyl)borane, 10Cl

(2,3-Dimethyl-2-butyl)di-1-octenylborane. Di-1-octenylthexylborane. *Thexyl*di-1-octenylborane
[62072-21-3]

(H₃C)₂CHC(CH₃)₂B[(CH=CH(CH₂)₅CH₃)₂

M 318.392

Prepd. *in situ* from 1-octyne and thexylchloroborane followed by reaction with 1-octenyllithium. Synthetic *intermed.* Air-sensitive oil. Sol. THF.

(*E,E*)-*form* [62072-21-3]

(*E,Z*)-*form* [75052-87-8]

Zweifel, G. *et al*, *J. Organomet. Chem.*, 1976, 117, 303 (*ir*, *nmr*, *uv*)

Pelter, A. *et al*, *Comprehensive Organic Chemistry*, (Barton, D.H.R. *et al*, Ed.), Pergamon, Oxford, 1979, 3, 695 (*rev*)

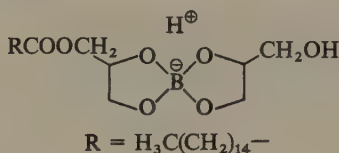
Zweifel, G. *et al*, *J. Am. Chem. Soc.*, 1980, 102, 5919 (*synth*)

Handle all chemicals with care

C₂₂H₄₃BO₇

B-01212

Hydrogen[2,3-dihydroxypropyl hexadecanoato(2-)] [1,2,3-propanetriolato(2-)-O¹,O²]borate(1-), 10Cl, 9Cl
Glycerol borate palmitate. Diglycerol borate monopalmitate
[52660-31-8]



M 430.388

Antistatic agent for plastics; coupling agent for polyolefin moulding compositions contg. inorg. fillers.

Japan. Pat., 73 43 371, (1973); CA, 81, 153669x (use)

Japan. Pat., 77 89 150, (1977); CA, 88, 38553n (use)

Japan. Pat., 78 49 051, (1978); CA, 89, 90717d (use)

Japan. Pat., 78 90 361, (1978); CA, 89, 216341x (use)

C₂₂H₄₄BBr

B-01213

(1-Bromo-1-hexenyl)diocetylborane, 10Cl
[67564-13-0]



M 399.304

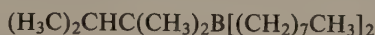
Synthetic intermed. Sensitive to air. Sol. THF.

Masuda, Y. et al, Bull. Chem. Soc. Jpn., 1980, 53, 1652.

C₂₂H₄₇B

B-01214

Diocetyl(1,1,2-trimethylpropyl)borane, 10Cl, 9Cl
(2,3-Dimethyl-2-butyl)diocetylborane. Diocetylthexylborane. Thexyldiocytylborane
[32327-53-0]



M 322.423

Prepd. *in situ* from thexylborane and 1-octene. Synthetic intermed. for transfer of octyl groups. Air-sensitive oil. Sol. THF.

Bigley, D.B. et al, J. Inorg. Nucl. Chem., 1971, 33, 1157 (use)

Brown, H.C. et al, J. Am. Chem. Soc., 1975, 97, 2799 (synth)

Hughes, R.J. et al, J. Chem. Soc., Perkin Trans. 1, 1977, 1172 (use)

Kabalka, G.W. et al, J. Organomet. Chem., 1977, 125, 273 (use)

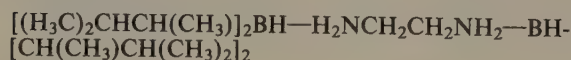
Ncube, S. et al, Tetrahedron Lett., 1979, 1895 (use)

C₂₂H₅₄B₂N₂

B-01215

Bis(disiamylborane) ethylenediamine

Tetrakis(1,2-dimethylpropyl)[μ-(1,2-ethanediamine-N:N')]dihydrodiboron, 10Cl
[68307-66-4]



M 368.302

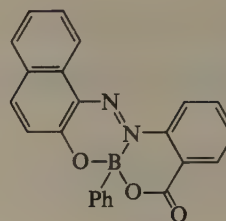
Useful method for storing disiamylborane, a regioselective hydroborating agent. Can be stored for 15 days at 0° without detectable dec.

Brown, H.C. et al, Inorg. Chem., 1979, 18, 53.

C₂₃H₁₅BN₂O₃

B-01216

[2-[(2-Hydroxy-1-naphthalenyl)azo]benzoato(2-)]phenylboron, 10Cl
[74300-67-7]



M 378.193

Red-black cryst. Mp 220°.

Hohaus, E. et al, Z. Naturforsch., B, 1980, 35, 316, 319 (ms, synth)

C₂₃H₂₀BN

B-01217

Triphenylborane pyridine

Triphenyl(pyridine)boron, 10Cl. Pyridine compd. with triphenylborane. Triphenylborine compd. with pyridine
[971-66-4]

As Tribromoborane pyridine, B-00307 with

X = Ph

M 321.228

Broad-spectrum germicide, fungicide and protozoicide. Solid. Mp 214-5° dec.

Mikhailov, B.M. et al, Dokl. Akad. Nauk SSSR, Ser. Sci. Khim., 1956, 109, 94 (synth)

U.S.P., 3 062 708, (1962); CA, 1963, 58, 2797e

Roth, H.J. et al, Arch. Pharm., (Weinheim, Ger.), 1964, 297, 766

Updegraff, D.M., J. Infect. Dis., 1964, 114, 304.

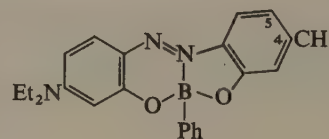
Romm, I.P. et al, Khim. Elementoorg. Soedin, 1976, 15.

Gragg, B.R. et al, J. Organomet. Chem., 1977, 132, 29 (nmr)

C₂₃H₂₄BN₃O₂

B-01218

[5-(Diethylamino)-2-[(2-hydroxy-4-methylphenyl)azo]phenolato(2-)]phenylboron, 10Cl
4-N,N-Diethylamino-2,2'-dihydroxy-4'-methylazobenzene monophenylboron chelate
[74302-89-9]



M 385.272

Red-violet cryst. with blue-green sheen. Mp 188°.

Hohaus, E. et al, Z. Naturforsch., B, 1980, 35, 316 (ms)

Hohaus, E. et al, Z. Naturforsch., B, 1980, 35, 319 (synth, nmr)

C₂₃H₂₄BN₃O₂

B-01219

[5-(Diethylamino)-2-[(2-hydroxy-5-methylphenyl)azo]phenolato(2-)]phenylboron, 10Cl
4-N,N-Diethylamino-2,2'-dihydroxy-5'-methylazobenzene monophenylboron chelate
[74302-88-8]

M 385.272

Brown-violet cryst. with gold-to-greenish sheen. Mp 189°.

Hohaus, E. et al, Z. Naturforsch., B, 1980, 35, 316 (ms)

Hohaus, E. *et al*, *Z. Naturforsch.*, B, 1980, 35, 319 (*synth*, *nmr*)

C₂₃H₂₅BN₂S

B-01220

(*N,N*-Diethyl-*N'*-phenylthioureato)diphenylborane
(*N,N*-Diethyl-*N'*-phenylthioureato-*N',S*)diphenylboron, 10Cl

[73768-07-7]

As (*N,N*-Diethyl-*N'*-phenylthioureato)dimethylborane, B-00856 with

R = Ph

M 372.334

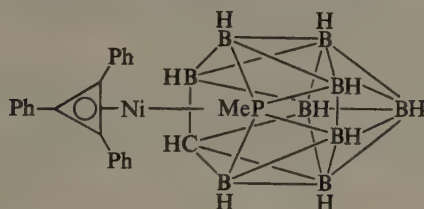
Formed from the reaction of Et₂NCSNPhSiMe₃ with Ph₂BCl.

Marringle, W., *Z. Naturforsch.*, B, 1980, 35, 164 (*synth*)

C₂₃H₂₈B₉NiP

B-01221

[Decahydro-7-methyl-π-7-phospha-10-carbaundecaborato(1−)](triphenyl-π-cyclopropenyl)nickel, 8Cl



M 491.428

Red cryst. (heptane/C₆H₆). Mp 202-3°.

Welcker, P.S. *et al*, *Inorg. Chem.*, 1970, 9, 286 (*synth*, *ir*, *ms*, *pmr*)

C₂₃H₃₇BN₂

B-01222

Dibutyl[*N*-2-(1-iminoethyl)cyclohexylidene]-4-methylbenzenaminato-*N,N'*]boron, 10Cl

[64537-93-5]

As Dibutyl[2-chloro-*N*-[2-(1-iminoethyl)cyclohexylidene]benzenaminato-*N,N'*]boron, B-01204 with

R = H, R' = CH₃

M 352.369

Viscous orange liq. Bp₁ 171°. *n*_D²⁰ = 1.5844.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1843; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1704 (*synth*, *nmr*, *ir*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2574; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2301.

C₂₃H₄₀B[−]

B-01223

Tricyclopentyl-1-octynylborate(1−), 10Cl, 9Cl

1-Octynyltricyclopentylborate

As Tricyclopentyl-1-hexynylborate(1−), B-01182 with

n = 5

M 327.379 (ion)

Li salt: [50543-75-4].

C₂₃H₄₀BLi M 334.320

Prepd. *in situ* from tricyclopentylborane and octynyllithium. Synthetic intermed. Air- and acid-sensitive. Sol. THF, glyme, diglyme.

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 544; 1974, 828 (*use*)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419, 2428, 2435 (*synth*, *props*, *use*)

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 913 (*use*)

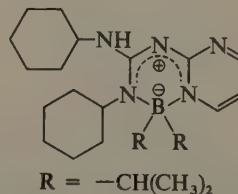
C₂₃H₄₀BN₅

B-01224

(*N,N'*-Dicyclohexyl-*N''*-2-pyrimidinylguanidinato-*N,N,N''*-bis(1-methylethyl)boron, 10Cl

Diisopropylboryl 2-[(*N,N'*-dicyclohexylamidino)-amino]pyrimidinate

[74300-85-9]



R = −CH(CH₃)₂

M 397.413

Yellow cryst. (hexane); stable in air. Mp 140-2°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 659; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 481 (*synth*, *nmr*, *ms*, *ir*, *uv*)

C₂₃H₄₆B[−]

B-01225

1-Octynyltripentylborate(1−), 10Cl

Triptyloctynylborate

H₃C(CH₂)₅C≡CB[(CH₂)₄CH₃]₃[−]

M 333.426 (ion)

Li salt: [66616-02-2].

C₂₃H₄₆BLi M 340.367

Prepd. *in situ* by addn. of octynyllithium to triptylborane. Probably oil, air-sensitive. *Synth*. intermed. Sol. THF.

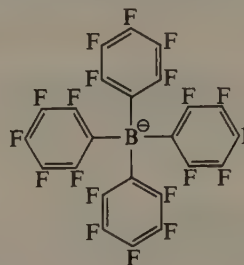
Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 913 (*synth*, *use*)

C₂₄BF₂₀[−]

B-01226

Tetrakis(pentafluorophenyl)borate(1−), 10Cl

Tetrakis(pentafluorophenyl)boronate



M 679.042 (ion)

Li salt: [2797-28-6].

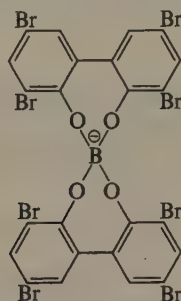
C₂₄BF₂₀Li M 685.983

Battery electrolyte. Air-stable solid. Sol. H₂O.

Massey, A.G. *et al*, *Proc. Chem. Soc. (London)*, 1963, 212 (*synth*)

Ger. Pat., 2 901 367, (1979); *CA*, 92, 61799p (*use*)

Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, 81, 131.

C₂₄H₈BBBr₈O₄[−]**B-01227****Bis[3,3',5,5'-tetrabromo[1,1'-biphenyl]-2,2'-diolato(2-)-O,O']borate(1-), 10Cl**

M 1010.367 (ion)

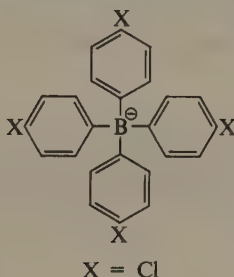
Guanidinium salt: [74210-99-4]. Hydrogen bis[3,3',5,5'-tetrabromo[1,1'-biphenyl]-2,2'-diolato(2-)-O,O']-borate(1-) compd. with guanidine (1:1), 10Cl. Guanidinium bis(3,3',5,5'-tetrabromobiphenyl-2,2'-diolato)borate.

C₂₅H₁₄BBBr₈N₃O₄ M 1070.445

Fireproofing agent for plastics.

Austrian Pat., 357 336, (1978); CA, 93, 151192k (use)

Eur. Pat., 5 497, (1979); CA, 93, 46174h (use, synth)

C₂₄H₁₆BCl₄[−]**B-01228****Tetrakis(4-chlorophenyl)borate(1-), 10Cl, 9Cl**

M 457.012 (ion)

K salt: [14680-77-4].

C₂₄H₁₆BCl₄K M 496.111

Used in ion-selective liq. membrane electrodes.

Vandeberg, J.T. et al, *Spectrochim. Acta, Part A*, 1971, 27, 501 (ir)Davies, J.E.W. et al, *Lab. Pract.*, 1973, 22, 20; CA, 78, 66226v (use)Vandeberg, J.T. et al, *Org. Magn. Reson.*, 1973, 5, 57 (nmr)

Ammann, D. et al, CA, 1980, 93, 21884b (use)

Petranek, J. et al, *Anal. Chim. Acta*, 1981, 128, 129.**C₂₄H₁₆BF₄[−]****B-01229****Tetrakis(4-fluorophenyl)borate(1-), 10Cl**

As Tetrakis(4-chlorophenyl)borate(1-), B-01228 with

X = F

M 391.194 (ion)

Li salt: [68140-33-0].

C₂₄H₁₆BF₄Li M 398.135

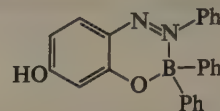
Used in battery electrolytes.

U.S.P., 4 139 681, (1979); CA, 90, 207210x (use)

Ger. Pat., 2 901 367, (1979); CA, 92, 61799p (use)

Horowitz, H.H. et al, *Proc. Electrochem. Soc.*, 1981, 81, 131.**C₂₄H₁₉BN₂O₂****B-01230**

[5-Hydroxy-2-(phenylazo)phenoxy]diphenylborane
Diphenyl[4-(phenylazo)-1,3-benzenediolato]boron, 10Cl
[74302-93-5]



M 378.236

Dark-red cryst. Mp 219°.

Hohaus, E. et al, *Z. Naturforsch., B*, 1980, 35, 319 (synth)**C₂₄H₂₀AgB****B-01231****Silver(1+) tetraphenylborate(1-), 10Cl, 9Cl, 8Cl**

Silver tetraphenylboride

[14637-35-5]

Ag⁺Ph₄B[−]

M 427.100

Used for gravimetric determination of Ag⁺ and in conductometric determinations of solubility and solubility prod. of Ag salts. Solid.

Mukherji, A.K. et al, *Anal. Chem.*, 1959, 31, 608 (props)Popovych, O., *Anal. Chem.*, 1966, 38, 117 (props)Costa, G. et al, *J. Organomet. Chem.*, 1967, 8, 339 (ir)Badoz-Lambling, J., *C.R. Hebd. Seances Acad. Sci.*, 1968, 266, 95 (props)**C₂₄H₂₀BCs****B-01232****Cesium tetraphenylborate(1-), 10Cl, 9Cl, 8Cl**

[3087-82-9]

Cs⁺Ph₄B[−]

M 452.137

Nmr shift reagent. Used in Cs isotope sepn. Tetrahedral cryst. Sl. sol. H₂O at (2.79 × 10^{−5}M at 25°).

Arnott, S. et al, *Acta Crystallogr.*, 1958, 11, 449 (struct)

Fiedler, H.J. et al, CA, 1967, 66, 90840p (use)

DeWitte, W.J. et al, *Inorg. Nucl. Chem. Lett.*, 1976, 12, 251 (nmr)Pacey, G. et al, *Talanta*, 1980, 27, 1013 (use)Popovych, O., *Solubility Data Ser.*, 1981, 18, 52-71.**C₂₄H₂₀BK****B-01233****Potassium tetraphenylborate(1-), 10Cl, 9Cl, 8Cl**

[3244-41-5]

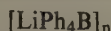
K⁺Ph₄B[−]

M 358.330

Catalyst for polymn. of ethylene oxide; contained in anti-fouling paints; electrolyte; gravimetric reagent. Cryst. (Me₂CO aq.). Spar. sol. THF.

Bhattacharyya, D.N., *J. Phys. Chem.*, 1965, 69, 608 (props)Kigintsev, A.N. et al, *Zh. Prikl. Khim.*, 1970, 43, 596; CA, 72, 139078m (synth)Vandeberg, J.T. et al, *Spectrochim. Acta, Part A*, 1971, 27, 501 (ir)Vandeberg, J.P. et al, *Org. Magn. Reson.*, 1973, 5, 57 (nmr)Hoffmann, K. et al, *J. Organomet. Chem.*, 1974, 67, 221 (struct)Popovych, O., *Solubility Data Ser.*, 1981, 18, 17 (props)**C₂₄H₂₀BLi****B-01234****Lithium tetraphenylborate(1-), 10Cl, 9Cl, 8Cl**

[14485-20-2]



M 326.173

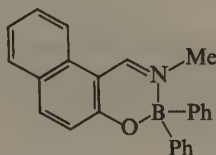
Polymeric. Used in battery electrolytes. Solid, somewhat sensitive to acid. Sol. THF.

Arnott, S. *et al*, *Acta Crystallogr.*, 1958, **11**, 449 (*struct*)Bhattacharyya, C.L., *J. Phys. Chem.*, 1965, **69**, 608 (*props, synth*)Revzin, G.E. *et al*, *CA*, 1969, **71**, 3416s (*synth*)Khol'kin, A.I. *et al*, *CA*, 1976, **85**, 86471u.Negishi, E. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, 1225 (*cmr, synth*)Bushby, R.J. *et al*, *J. Chem. Res. (S)*, 1980, 306; *CA*, **94**, 14969a (*synth, purifn*)C₂₄H₂₀BNO

B-01235

[1-[(Methylimino)methyl]-2-naphthalenolato-*N*,*O*]diphenylboron, 10Cl

[75095-29-3]



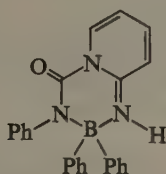
M 349.238

Cryst. (CCl₄). Mp 190°. Dipole moment 4.88D.Bregadze, V.I. *et al*, *J. Organomet. Chem.*, 1980, **192**, 1 (*ir, uv, struct, synth*)Kompan, O.E. *et al*, *Zh. Strukt. Khim.*, 1980, **21**, 90.C₂₄H₂₀BN₃O

B-01236

Diphenylboryl-[1-(phenylcarbamoyl)pyridone-2-iminato] (2-Imino-*N*-phenyl-1 (2H)-pyridinecarboxamidato-*N*^{N1},*N*²)diphenylboron, 10Cl

[70440-12-9]



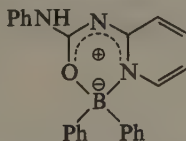
M 377.252

Cryst. Stable in air. Sol. THF, Et₂O, CHCl₃. Mp 278-80°.Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, **245**, 121 (*synth*)Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1085; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1014 (*synth, nmr, ir*)C₂₄H₂₀BN₃O

B-01237

Diphenyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N'*,*O*)boron, 10Cl
O-Diphenylboryl(phenylcarbamoylaminopyridinate)

[70440-09-4]



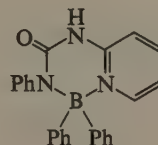
M 377.252

Cryst., rel. stable in air, stable to H₂O and alcohols. Sol. THF. On htg. to 180-90° slowly converts to Diphenyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N'*)boron, B-01238 without melting.Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, **245**, 121 (*synth*)Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1340; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1253 (*synth, nmr, ir, uv*)C₂₄H₂₀BN₃O

B-01238

Diphenyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N'*)boron, 10Cl
N-Diphenylboryl(phenylcarbamoylaminopyridinate)

[63720-12-7]



M 377.252

Cryst., rel. stable in air, stable to H₂O and alcohols.

Insol. THF. Mp 264-5°.

Handshoe, R. *et al*, *Synth. React. Inorg. Met.-Org. Chem.*, 1977, **7**, 89; *CA*, **87**, 85071t.Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, **245**, 121 (*synth*)Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1340; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1253 (*synth, nmr, ir, uv*)C₂₄H₂₀BRb

B-01239

Rubidium tetraphenylborate(1-), 10Cl, 9Cl, 8Cl

[5971-93-7]



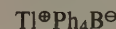
M 404.700

Catalyst for polyester resin manuf.; electrolyte. Tetragonal cryst. V. spar. sol. H₂O (2.33 × 10⁻⁵ at 25°).Davies, T. *et al*, *Trans. Faraday Soc.*, 1957, **53**, 19 (*synth, props*)Arnott, S. *et al*, *Acta Crystallogr.*, 1958, **11**, 449 (*struct*)Caruso, J.A. *et al*, *J. Am. Chem. Soc.*, 1971, **93**, 1341 (*synth, props*)*Ger. Pat.*, 2 365 465, (1975); *CA*, **83**, 44049r (*use*)Saleh, N. *et al*, *J. Solution Chem.*, 1979, **8**, 197 (*props*)Popovych, O., *Solubility Data Ser.*, 1981, **18**, 43 (*props*)C₂₄H₂₀BTl

B-01240

Thallium(1+) tetraphenylborate(1-), 10Cl, 9Cl, 8Cl

[14637-31-1]



M 523.615

Flocculent white ppt. V. spar. sol. H₂O (5.29 × 10⁻⁵ at 25°). Stable up to 180°.Wendlandt, W.W., *Anal. Chim. Acta*, 1957, **16**, 216 (*props*)Costa, G. *et al*, *J. Organomet. Chem.*, 1967, **8**, 339 (*ir*)Popovych, O., *Solubility Data Ser.*, 1981, **18**, 177.C₂₄H₂₀B₂O

B-01241

Oxybis[diphenylborane], 10Cl, 9Cl, 8Cl

Bis(diphenylboron)oxide. Tetraphenyldiboron oxide

[4426-21-5]



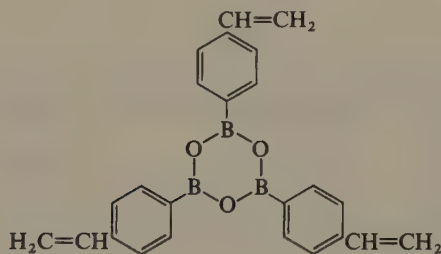
M 346.041

Cryst. Sol. THF, CHCl₃, CH₂Cl₂. Mp 118-9°. ¹¹Bnmr δ 28.5 ppm.

Neu, R. *et al*, *Chem. Ber.*, 1955, **88**, 1761 (*synth*)
 Finch, A. *et al*, *Trans. Faraday Soc.*, 1966, **62**, 3314 (*props*)
 Nöth, H. *et al*, *Chem. Ber.*, 1966, **99**, 1049 (*nmr*)
 Conway, W.R. *et al*, *Synth. React. Inorg. Metal-Org. Chem.*, 1975, **5**, 37 (*synth*)
 Gragg, B.R. *et al*, *J. Organomet. Chem.*, 1977, **132**, 29 (*cmr*)
 Moehrle, H. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1981, **314**, 580; *CA*, **95**, 115504w (*use*)

C₂₄H₂₁B₃O₃**B-01242****Tris(4-ethenylphenyl)boroxin, 10CI**

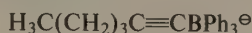
Tris(p-vinylphenyl)boroxin, 8CI. Tri(p-styryl)boroxine
 [16396-62-6]



M 389.858

Used in synth. of polymers with chiral cavity. Moisture-sensitive cryst. (CCl₄). Mp 195-6°.

Dale, W.J. *et al*, *J. Org. Chem.*, 1962, **27**, 2598 (*ir, uv, synth*)
 Armstrong, D.R. *et al*, *J. Chem. Soc. (A)*, 1967, 790 (*props*)
 Wulf, G. *et al*, *Chem. Ber.*, 1974, **107**, 3364 (*use*)
 Rajwar, D.C. *et al*, *Natl. Acad. Sci. Lett.*, 1980, **3**, 33 (*use*)

C₂₄H₂₄B[⊖]**B-01243****1-Hexynyltriphenylborate(1-), 10CI, 9CI**

M 323.264 (ion)

Li salt: [42045-41-0].**C₂₄H₂₄B[⊖]Li** M 330.205

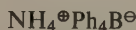
Prepd. *in situ* from hexynyllithium and triphenylborane. Synthetic intermed.

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 544 (*use*)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419, 2435 (*synth, use*)

C₂₄H₂₄BN**B-01244****Ammonium tetraphenylborate(1-), 10CI, 9CI, 8CI**

[14637-34-4]



M 337.270

Solid. Almost insol. H₂O, cyclohexane C₆H₆. Mp 110-20° dec.

Davies, T. *et al*, *Trans. Faraday Soc.*, 1957, **53**, 19 (*props, synth*)

Staveley, L.A.K. *et al*, *Pure Appl. Chem.*, 1961, **2**, 271 (*props*)

Costa, G. *et al*, *J. Organomet. Chem.*, 1967, **8**, 339 (*ir*)

Rosenfarb, J. *et al*, *Can. J. Chem.*, 1976, **54**, 3492 (*nmr*)

Oxton, I.A. *et al*, *J. Mol. Struct.*, 1977, **37**, 69 (*ir*)

Westerhaus, W.J. *et al*, *Can. J. Chem.*, 1980, **58**, 1355 (*struct, ir*)

C₂₄H₂₆BClO**B-01245****(4-Chlorophenoxy)bis(2,4,6-trimethylphenyl)borane**

Bis(2,4,6-trimethylphenyl)borinic acid 4-chlorophenyl ester, 10CI. Dimesitylborinic acid 4-chlorophenyl ester. Dimesityl(4-chlorophenoxy)borane

[75260-18-3]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with

R = 4-Chlorophenoxy

M 376.732

Colourless cryst. solid, stable in air. Sol. most org. solvs.

Mp 100-1°. Slowly oxid. in soln.

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **193**, 271

(*synth, nmr, cmr, pmr*)

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*nmr*)

C₂₄H₂₇BO**B-01246****Phenoxybis(2,4,6-trimethylphenyl)borane**

Bis(2,4,6-trimethylphenyl)borinic acid phenyl ester, 10CI. Dimesitylborinic acid phenyl ester.

Dimesitylphenoxyborane

[75260-16-1]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with

R = —OPh

M 342.287

Colourless cryst. solid, stable in air. Sol. most org. solvs.

Mp 135-6°. Slowly oxid. in soln.

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **193**, 271

(*synth, nmr, cmr*)

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*nmr*)

C₂₄H₂₇BS**B-01247****(Phenylthio)bis(2,4,6-trimethylphenyl)borane**

Thiobis(2,4,6-trimethylphenyl)borinic acid phenyl ester, 10CI. Dimesityl(phenylthio)borane

[77657-18-2]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with

R = —SPh

M 358.347

White cryst. (pentane or pentane/Et₂O), sl. affected by atmospheric moisture after 12 hrs. Mp 106-8°.

Davidson, F. *et al*, *J. Organomet. Chem.*, 1981, **204**, 147 (*synth, pmr, cmr, nmr*)

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*cmr*)

C₂₄H₂₈BN**B-01248****(Phenylamino)bis(2,4,6-trimethylphenyl)borane**

N-Phenyl-1,1-bis(2,4,6-trimethylphenyl)boranamine, 10CI, 9CI. Dimesitylphenylaminoborane.

Anilindimesitylborane

[43017-58-9]

As (Methylamino)bis(2,4,6-trimethylphenyl)borane, B-01128 with

R = Ph

M 341.302

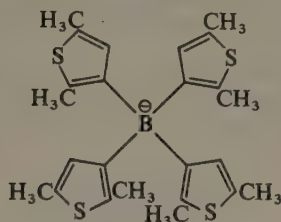
White cryst. (hexane/Et₂O). Sol. most org. solvs. Mp 151-2°.

Glogowski, M.E. *et al*, *J. Organomet. Chem.*, 1974, **74**, 175 (*uv*)
 Hancock, K.G. *et al*, *J. Organomet. Chem.*, 1975, **90**, 23 (*uv*)
 Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **192**, 133;
 1981, **210**, 1 (*synth*, *ir*, *nmr*)

C₂₄H₂₈BS₄[−]

Tetrakis(2,5-dimethyl-3-thienyl)borate(1−), 10Cl

B-01249



M 455.535 (ion)

Cs salt: [70177-30-9].

C₂₄H₂₈BCsS₄ M 588.441

Analytical reagent. No phys. props. reported.

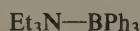
Pacey, G.E. *et al*, *Anal. Chim. Acta*, 1979, **105**, 353.Pacey, G. *et al*, *Talanta*, 1980, **27**, 1013 (*nmr*)C₂₄H₃₀BN

Triphenylborane triethylamine

B-01250

(N,N-Diethylethanamine)triphenylboron, 10Cl

[5606-04-2]



M 343.318

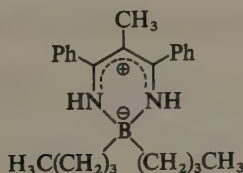
Epoxy resin thermosetting reagent. Solid. Mp 108-12°.

Roth, H.J. *et al*, *Arch. Pharm. (Weinheim, Ger.)*, 1964, **297**, 766 (*synth*)Sheikh, S.U., *Bull. Chem. Soc. Jpn.*, 1976, **49**, 2879.Japan. Pat., 78 123 500, (1978); *CA*, **90**, 88329fJapan. Pat., 79 39 496, (1979); *CA*, **91**, 75308uJapan. Pat., 79 39 497, (1979); *CA*, **91**, 75309vSheikh, S.U. *et al*, *Proc. Eur. Symp. Therm. Anal.*, 2nd, 1981, 446.C₂₄H₃₃BN₂

Dibutyl(2-methyl-1,3-diphenyl-1,3-propanediiminato-N,N')-boron, 10Cl

B-01251

[62392-14-7]



M 360.348

Red cryst. Mp 45-8°. Bp₂ 191-2°. High hydrolytic stability.Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1976, 2756; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2566 (*synth*, *uv*, *ir*, *nmr*)C₂₄H₄₁BN₄

(N,N'-Dicyclohexyl-N'-2-pyridinylguanidinato-N'',N'')-dipropylboron, 10Cl

B-01252

Dipropylboryl 2-[(N,N'-dicyclohexylamidino)amino]-pyridinate

[70440-06-1]

As (N,N'-Dicyclohexyl-N'-2-pyridinylguanidinato-N'',N'')diethylboron, B-01207 with

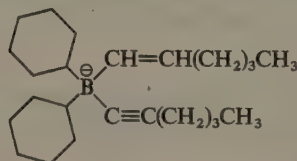


M 396.425

Possesses some antiviral activity. Yellow cryst. (EtOH); stable in air and H₂O. Mp 122-4°.Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, **245**, 121 (*synth*)Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 659; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 481 (*synth*, *nmr*, *uv*, *ir*, *ms*)Lagutkin, N.A. *et al*, *Khim.-Farm. Zh.*, 1982, **16**, 695.C₂₄H₄₂B[−]

Dicyclohexyl-1-hexenyl-1-hexynylborate(1−), 10Cl

B-01253

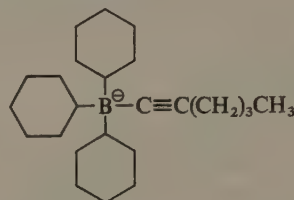


M 341.406 (ion)

Li salt: [67966-24-9].

C₂₄H₄₂B[−]Li⁺ M 348.347Prepd. *in situ* from dicyclohexyl-1-hexenylborane and 1-hexynyllithium. Intermed. in stereoselective synth. of 5,7-dodecadiene.Negishi, E. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1978, 1225 (*synth*, *pnr*)Zweifel, G. *et al*, *J. Organomet. Chem.*, 1978, **156**, 159 (*synth*, *use*)C₂₄H₄₂B[−]Tricyclohexyl-1-hexynylborate(1−), 10Cl, 9Cl
Hexynyltricyclohexylborate

B-01254



M 341.406 (ion)

Li salt: [42126-51-2].

C₂₄H₄₂B[−]Li⁺ M 348.347Prepd. *in situ* from tricyclohexylborane and hexynyllithium. Intermed. in synth. of alkynes and ketones. Air- and acid-sensitive. Sol. THF, glyme, diglyme.Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 544 (*use*)Suzuki, A. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 3080 (*synth*, *use*)Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419, 2435 (*synth*, *props*)C₂₄H₄₅BO₇Hydrogen [2,3-dihydroxypropyl 9-octadecenoato(2−)]-[1,2,3-propanetriolato(2−)-O¹, O²]borate(1−), 10Cl, 9Cl
Glycerol borate (2:1) monooleate. Glycerol monooleoyl-glycerol borate

B-01255

[58178-99-7]

As Hydrogen[2,3-dihydroxypropyl hexadecanoato(2-)]-[1,2,3-propanetriolato(2-)-O¹,O²]borate(1-), B-01212 with



M 456.425

Oil-soluble surfactant; used as heat stabilizer for polycarbonates.

Hamanaka, H., *Yukagaku*, 1975, **24**, 542; *CA*, **84**, 76119a (use)

Hamanaka, H., *Yukagaku*, 1977, **26**, 268; *CA*, **87**, 203401a (use)

Japan. Pat., 78 90 361, (1978); *CA*, **89**, 216341x (use)

C₂₄H₄₇BO₇

B-01256

Hydrogen [2,3-dihydroxypropyl octadecanoate(2-)]-[1,2,3-propanetriolato(2-)-O¹,O²]borate(1-), 10Cl, 9Cl
Glycerol borate (2:1) monostearate. Glycerol monostearoylglycerol borate
[52660-29-4]

As Hydrogen[2,3-dihydroxypropyl hexadecanoato(2-)]-[1,2,3-propanetriolato(2-)-O¹,O²]borate(1-), B-01212 with



M 458.441

Oil-soluble surfactant; used as antistatic agent for plastics, in heat stabilizers for polycarbonates and as corrosion inhibitor for steel in cement.

Japan. Pat., 73 43 371, (1973); *CA*, **81**, 153669x (use)

Hamanaka, H., *Yukagaku*, 1975, **24**, 542; *CA*, **84**, 76119a (use)

Ger. Pat., 2 461 359, (1975); *CA*, **84**, 93611x (use)

Hamanaka, H., *Yukagaku*, 1977, **26**, 268; *CA*, **87**, 203401a (use)

Japan. Pat., 78 90 361, (1978); *CA*, **89**, 216341x (use)

C₂₄H₄₈B[⊖]

B-01257

Trihexyl-1-hexynylborate(1-), 10Cl, 9Cl



M 347.453 (ion)

Li salt: [54816-18-1].

C₂₄H₄₈B[⊖]Li M 354.394

Prepd. *in situ* from hexynyllithium and trihexylborane. Synthetic intermed.

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 828 (props)

Pelter, A. *et al*, *Tetrahedron Lett.*, 1975, 1633 (props)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. I*, 1976, 2419, 2435 (synth, props)

Utimoto, K. *et al*, *Tetrahedron Lett.*, 1976, 3969 (synth)

Pelter, A. *et al*, *Tetrahedron Lett.*, 1981, **22**, 797 (props)

C₂₄H₅₁B

B-01258

Trioctylborane, 10Cl, 9Cl, 8Cl

[3248-78-0]



M 350.477

Prepd. from 1-octene and borane in THF. This method gives a product containing ca. 6% of 2-octyl groups. Synthetic intermed., usually prepd. *in situ*. Used for transfer of 1-octyl group. Air-sensitive, oil. Sol. THF, non-polar org. solvs. Bp₁₂ 189-92°. Heat of formn. ΔH_f -153.04 Kcal mol⁻¹.

Brown, H.C. *et al*, *J. Org. Chem.*, 1957, **22**, 1137 (synth)

Bennett, J.E. *et al*, *J. Chem. Soc.*, 1961, 2472 (props)
Köster, R. *et al*, *Justus Liebigs Ann. Chem.*, 1965, **682**, 21 (props)

Smith, M.B., *J. Organomet. Chem.*, 1974, **76**, 171.

Brown, H.C. *et al*, *J. Org. Chem.*, 1980, **45**, 916 (props)

Brown, H.C. *et al*, *Synthesis*, 1980, 153 (synth)

C₂₄H₅₁BO₃

B-01259

Trioctyloxyborane

Boric acid (H₃BO₃) trioctyl ester, 10Cl, 9Cl, 8Cl. Octyl borate. Trioctyl borate. Trioctyl orthoborate.

Tris(octyloxy)borane

[2467-12-1]



M 398.475

Heat stabilizer, plasticizer, insect sterilant, catalyst.

Moisture-sensitive liq. Sol. non-hydroxylic solvs.

d₄²⁰ 0.855. Bp_{0.5} 182-4°. n_D²⁰ 1.4377, 1.4360.

▷ED5630000.

Arbuzov, B.A. *et al*, *Compt. Rend. Acad. Sci. URSS*, 1947, **55**, 411 (props)

Gerrard, W. *et al*, *J. Chem. Soc.*, 1955, 3084 (synth)

Maijs, L. *et al*, *CA*, 1972, **76**, 51486q (props)

Novak, F.I. *et al*, *CA*, 1979, **90**, 167981r (props)

U.S.P., 4 211 679, (1980); *CA*, **93**, 169189z (use)

C₂₄H₅₁BO₃

B-01260

Tris(2-ethylhexyloxy)borane

Boric acid (H₃BO₃) tris(2-ethylhexyl) ester, 10Cl, 9Cl

[2467-13-2]



M 398.475

Stabilizer for PVC. Moisture-sensitive oil. Sol. non-hydroxylic solvs. d₂₄ 0.857. Bp 350-4°, Bp₂₀ 227-8°. n_D²⁵ 1.4359.

▷ED5800000.

Steinberg, H. *et al*, *Ind. Eng. Chem.*, 1957, **49**, 174 (synth, props)

East Ger. Pat., 147 364, (1981); *CA*, **95**, 188188f (use)

C₂₄H₅₁BO₁₂

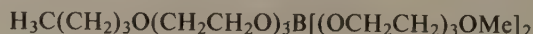
B-01261

Bis(1,4,7,10-tetraoxaundecyl)(1,4,7,10-tetraoxatetradecyl)-borane

Boric acid (H₃BO₃) 2-[2-(2-butoxyethoxy)ethoxy]ethyl

bis[2-[2-(2-methoxyethoxy)ethoxy]ethyl]ester, 10Cl

[74198-20-2]



M 542.470

Used in brake fluids for automobiles. Moisture-sensitive.

Ger. Pat., 2 831 538, (1980); *CA*, **93**, 134858q (use)

U.S.P., 4 192 759, (1980); *CA*, **94**, 86976y (use)

C₂₄H₅₁BO₁₂

B-01262

(2-Butoxyethoxy)bis(1,4,7,10,13-pentaoxatetradecyl)borane

Boric acid (H₃BO₃) 2-butoxyethyl bis(3,6,9,12-tetraoxatridec-1-yl) ester, 10Cl

[74198-23-5]



M 542.470

Used in brake fluids for automobiles. Moisture-sensitive.

Ger. Pat., 2 831 538, (1980); CA, 93, 134858q (use)

U.S.P., 4 192 759, (1980); CA, 94, 86976y (use)

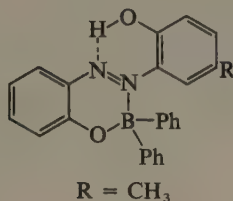
C₂₅H₂₁BN₂O₂

B-01263

Diphenyl[2-(2-hydroxy-4-methylphenylazo)phenoxy]borane

[2-[(2-Hydroxyphenyl)azo]-4-methylphenolato]diphenylboron, 10Cl

[74300-74-6]



M 392.263

10Cl name refers to alternative tautomer. Dark-red cryst. (C₆H₆). Mp 154°.

Hohaus, E. et al, Z. Naturforsch., B, 1980, 35, 316, 319 (ms, synth)

C₂₅H₂₁BN₂O₃

B-01264

Diphenyl[2-(2-hydroxy-4-methoxyphenylazo)phenoxy]borane

[2-[(2-Hydroxyphenyl)azo]-4-methoxyphenolato]diphenylboron, 10Cl

[74300-75-7]

As Diphenyl[2-(2-hydroxy-4-methylphenylazo)phenoxy]borane, B-01263 with

R = OMe

M 408.263

10Cl name refers to alternative tautomer. Black-violet cryst. (C₆H₆). Mp 147°.

Hohaus, E. et al, Z. Naturforsch., B, 1980, 35, 316, 319 (ms, synth)

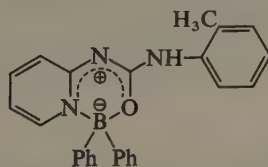
C₂₅H₂₂BN₃O

B-01265

[N-(2-Methylphenyl)-N'-2-pyridinylureato-N'',O]diphenylboron, 10Cl

(O-Diphenylboryl-2-o-tolylcarbamoyl)aminopyridine

[66200-01-9]



M 391.278

Cryst., relatively air-stable; not dec. by H₂O or alcohols. Mp 244-7°. Isom. before melting.

Dorokhov, V.A. et al, Izv. Akad. Nauk SSSR, Ser. Khim., 1978, 253; Bull. Acad. Sci. USSR, Div. Chem. Sci., 224 (synth, ir)

Dorokhov, V.A. et al, Izv. Akad. Nauk SSSR, Ser. Khim., 1979, 1340; Bull. Acad. Sci. USSR, Div. Chem. Sci., 1253 (synth, nmr)

C₂₅H₂₃B₂N

B-01266

Bis(diphenylboryl)methylamine

N-(Diphenylboryl)-N-methyl-1,1-diphenylboranamine, 10Cl, 9Cl

[38762-27-5]

(Ph₂B)₂NMe

M 359.083

Solid. Mp 135-9°.

Beck, W. et al, Chem. Ber., 1972, 105, 2883 (nmr)

Barlos, K. et al, Chem. Ber., 1977, 110, 2790.

Jonás, K. et al, Chem. Ber., 1977, 110, 2783 (synth, nmr)

C₂₅H₂₆B[⊖]

B-01267

1-Heptynyltriphenylborate(1-), 10Cl

H₃C(CH₂)₄C≡CBPh₃[⊖]

M 337.290 (ion)

Li salt: [78607-90-6].

C₂₅H₂₆B[⊖]Li⁺ M 344.231

Prepd. in situ from heptynyllithium and triphenylborane. Synthetic intermed.

Pelter, A. et al, J. Chem. Soc., Chem. Commun., 1981, 164 (props)

C₂₅H₂₆BN₃

B-01268

Guanidinium tetraphenylborate

Hydrogen tetraphenylborate(1-) compd. with guanidine(1:1), 10Cl, 9Cl

[57436-41-6]

(H₂N)₂C=NH₂[⊕]BPh₄[⊖]

M 379.311

Forms complexes with crown ethers. Solid. Mp 170-2°.

Madan, K. et al, J. Chem. Soc., Chem. Commun., 1975, 427 (use)

Kyba, E.P. et al, J. Am. Chem. Soc., 1977, 99, 2564 (synth, use)

Popovych, O., Solubility Data Ser., 1981, 18, 91.

C₂₅H₂₉BO₂

B-01269

4-Methoxyphenoxybis(2,4,6-trimethylphenyl)borane

Bis(2,4,6-trimethylphenyl)borinic acid 4-methoxyphenyl ester, 10Cl. Dimesitylborinic acid 4-methoxyphenyl ester. Dimesityl(4-methoxyphenoxy)borane

[75260-19-4]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with

R = 4-Methoxyphenoxy

M 372.313

Colourless cryst. solid, stable in air. Sol. most org. solvs. Mp 115-6°. Slowly oxid. in soln.

Brown, N.M.D. et al, J. Organomet. Chem., 1980, 193, 271 (synth, nmr, cmr)

Brown, N.M.D. et al, J. Organomet. Chem., 1981, 210, 1 (nmr)

C₂₅H₂₉BS

B-01270

(Benzylthio)bis(2,4,6-trimethylphenyl)borane

Thiobis(2,4,6-trimethylphenyl)borinic acid phenylmethyl ester, 10Cl. (Benzylthio)dimesitylborane. (Phenylmethylthio)bis(2,4,6-trimethylphenyl)borane

[77657-17-1]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with

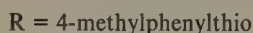


M 372.374

White cryst. (pentane or pentane/Et₂O), sl. affected by atmospheric moisture after 12 hrs. Mp 76-9°.Davidson, F. *et al*, *J. Organomet. Chem.*, 1981, **204**, 147 (*synth*, *pmr*, *cmr*, *nmr*)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*cmr*)**C₂₅H₂₉BS****B-01271****(4-Methylphenylthio)bis(2,4,6-trimethylphenyl)borane***Thiobis(2,4,6-trimethylphenyl)borinic acid 4-methylphenyl ester*, 10Cl. *Dimesityl(4-methylphenylthio)borane*. *Dimesityl(p-tolylthio)borane*

[77657-19-3]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with

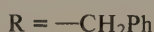


M 372.374

White cryst. (pentane or pentane/Et₂O), sl. affected by atmospheric moisture after 12 hrs. Mp 94-6°.Davidson, F. *et al*, *J. Organomet. Chem.*, 1981, **204**, 147 (*synth*, *pmr*, *cmr*, *nmr*)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*cmr*)**C₂₅H₃₀BN****B-01272****(Benzylamino)bis(2,4,6-trimethylphenyl)borane***N-(Phenylmethyl)-1,1-bis(2,4,6-trimethylphenyl)boranamine*, 10Cl. *Benzylaminodimesitylborane*

[75018-28-9]

As (Methylamino)bis(2,4,6-trimethylphenyl)borane, B-01128 with

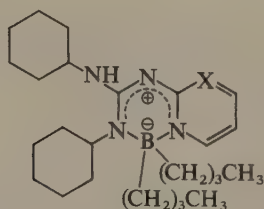


M 355.329

White cryst. Sol. most org. solvs. Mp 88-90°.

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **192**, 133 (*synth*, *ir*, *nmr*)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (*nmr*)**C₂₅H₄₄BN₅****B-01273****Dibutyl(N,N'-dicyclohexyl-N''-2-pyrimidinylguanidinato-N,N'')boron**, 10Cl*Dibutylboryl[2-(N,N'-dicyclohexylamidino)aminopyrimidine]*

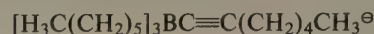
[74300-86-0]



X = N

M 425.466

Possesses some antiviral activity. Yellow cryst. (hexane). Mp 118-21°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 659; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 481 (*synth*, *ms*, *ir*)Lagutkin, N.A. *et al*, *Khim.-Farm. Zh.*, 1982, **16**, 695.**C₂₅H₅₀B[⊖]****B-01274****1-Heptynyltriheptylborate(1-), 10Cl**

M 361.480 (ion)

Li salt: [74911-29-8].C₂₅H₅₀BLi M 368.421Prepd. *in situ* from heptynyllithium and triheptylborane. Synthetic intermed.Hara, S. *et al*, *Chem. Lett.*, 1980, 221 (*props*)Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1981, 164 (*props*)**C₂₅H₇₀BIrOP₂Si₆****B-01275****Carbonyl[tetrahydroborato(1-)-H,H']bis[tris(trimethylsilyl)methyl]phosphine]iridium**, 9Cl*Tetrahydroborato(carbonyl)bis[tris(trimethylsilylmethyl)phosphine]iridium*

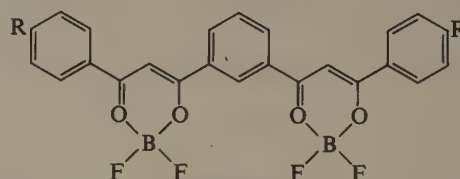
[38437-59-1]



M 820.318

Pale-yellow plates (C₆H₆/MeOH). Mp 105-25° dec. *ir* ν_{CO} 1922 cm⁻¹ (nujol).Hsieh, A.T.T. *et al*, *J. Chem. Soc., Dalton Trans.*, 1972, 1966 (*synth*, *ir*, *pmr*)**C₂₆H₂₀B₂F₄O₆****B-01276****Tetrafluorol[μ-[[1,1'-(1,3-phenylene)bis[3-(4-methoxyphenyl)-1,3-propanedionato]](2-)]diboron**, 10Cl

[67109-24-4]



R = OMe

M 526.054

Catalyst for polymerisation of vinylcarbazole. Useful in electrophotographic copying.

Ger. Pat., 2 749 768, (1978); *CA*, **89**, 110833u (*use*)Halm, J.M. *et al*, *Photogr. Sci. Eng.*, 1979, **23**, 252 (*use*)**C₂₆H₂₀B₂Fe₂O₄****B-01277****Di-μ-carbonyldicarbonylbis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]diiron**, 9Cl*Di-μ-carbonyldicarbonylbis(1-phenylborinato)diiron*

[54853-77-9]

As Di-

μ-carbonylbis[(1,2,3,4,5,6-η)-1-methylboratabenzene]diiron B-00988 with



M 529.756

Violet, air-stable leaflets (pentane). Dec. at 150°, subl. at 120° *in vacuo*.

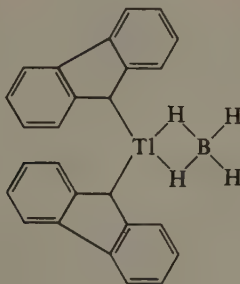
Herberich, G. *et al*, *Chem. Ber.*, 1974, **107**, 3780 (*synth*, *pmr*, *ms*, *ir*)

Siebert, W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1980, **19**, 746 (*synth*, *pmr*, *nmr*, *struct*)

C₂₆H₂₂BTl

B-01278

Di-9*H*-fluoren-9-yl[tetrahydroborato(1-)-*H*,*H'*]thallium
Difluorenylthallium borohydride
[56116-45-1]



M 549.653

▷Toxic

Kumar, N. *et al*, *CA*, 1974, **82**, 98034e.

C₂₆H₂₆BTl

B-01279

Dimethyl(tetraphenylborato-*B*)thallium
Dimethylthallium tetraphenylborate
Me₂TlBPh₄

M 553.684

Solid (Me₂CO). Mp 215° dec.

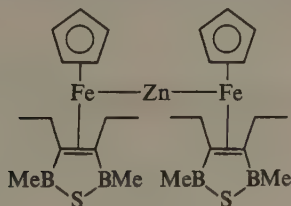
▷Toxic

Kurosawa, H. *et al*, *Bull. Chem. Soc. Jpn.*, 1967, **40**, 861.

C₂₆H₄₂B₄Fe₂S₂Zn

B-01280

Bis-μ-[(η⁵-2,4-cyclopentadien-1-yl)-
bis[μ-[(3,4-η:3,4-η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-
1,2,5-thiadiborole-*B*²,*B*⁵,*S*¹:*B*²,*B*⁵,*S*¹]]diiron]zinc, 10Cl



M 639.052

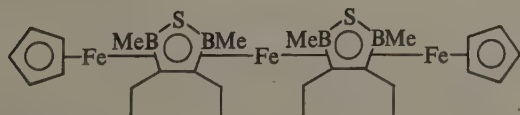
Intermed. for triple decker sandwich compds. Red cryst. (hexane). Mp 182-4°.

Siebert, W. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1980, **19**, 746 (*synth*, *nmr*, *ms*)

C₂₆H₄₂B₄Fe₃S₂

B-01281

Bis(η⁵-2,4-cyclopentadien-1-yl)bis[μ-[(3,4-η:3,4-η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole-*B*²,*B*⁵,*S*¹:*B*²,*B*⁵,*S*¹]]triiron, 10Cl
[74964-92-4]



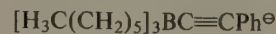
M 629.519

Black needles (toluene). Mp 209-11° dec.

C₂₆H₄₄B[⊖]

B-01282

Trihexyl(phenylethynyl)borate(1-), 10Cl, 9Cl



M 367.444 (ion)

Li salt: [50543-74-3].

C₂₆H₄₄B[⊖]Li M 374.385

Prepd. *in situ*. Synthetic intermed.

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 544 (*use*)

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1974, 347 (*props*)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419, 2435 (*synth*, *props*)

Hara, S. *et al*, *Chem. Lett.*, 1980, 221 (*use*)

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1981, 164 (*use*)

C₂₆H₄₅BN₄

B-01283

Dibutyl(*N,N'*-dicyclohexyl-*N''*-2-pyridinylguanidinato-*N''*,*N''*)boron, 10Cl
Dibutylboryl-[2-(*N,N'*-dicyclohexylamidino)aminopyridinate]
[70440-07-2]

As Dibutyl(*N,N'*-dicyclohexyl-*N''*-2-pyrimidinylguanidinato-*N,N''*)boron, B-01273 with

X = CH

M 424.478

Yellow cryst. (EtOH), stable in air and to H₂O. Mp 96-8°.

Mikhailov, B.M. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, **245**, 121.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 659; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 481 (*synth*, *nmr*, *ir*, *uv*, *ms*)

C₂₆H₅₂B[⊖]

B-01284

Dihexyl-1-octynyl(1,1,2-trimethylpropyl)borate(1-), 10Cl, 9Cl
Dihexyl-1-octynylthexylborate. Thexyldihexyl-1-octynylborate

As Dibutyl-1-hexynyl(1,1,2-trimethylpropyl)borate(1-), B-01155 with



M 375.507 (ion)

Li salt: [56556-80-0].

C₂₆H₅₂B[⊖]Li M 382.448

Prepd. *in situ* from octynyllithium and the corresponding trialkylborane. Useful synthetic intermediate.

Pelter, A. *et al*, *Tetrahedron Lett.*, 1975, 1633 (*synth*, *props*)

Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419 (*synth*, *props*)

C₂₆H₅₂B[⊖]

B-01285

Trihexyl-1-octynylborate(1-), 10Cl, 9Cl



M 375.507 (ion)

Li salt: [50543-73-2].

C₂₆H₅₂BLi M 382.448Prepd. *in situ*. Synthetic intermed.Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 544 (props, use)Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419, 2428, 2435 (synth, use, props)Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 913 (props)C₂₆H₅₄B₂N₂

B-01286

Bis(monoisopinocampheylborane) tetramethylethylenediamine*Tetrahydro*[μ-(N,N,N',N'-tetramethyl-1,2-ethanediamine-N:N')]bis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)diboron, 10Cl. TMEDA—2[(IPC)BH₂]

[67826-92-0]



M 416.346

Convenient way of storing the chiral hydroborating agent monoisopinocampheyl borane. Cryst. (pentane or Et₂O). Mp 140-1°.Brown, H.C. *et al*, *J. Org. Chem.*, 1978, **43**, 4395 (synth, pmr, nmr)Singaram, B. *et al*, *J. Organomet. Chem.*, 1978, **156**, C1 (synth)C₂₆H₅₅BO₁₃

B-01287

Bis(1,4,7,10,13-pentaoxatetradecyl)(1,4,7-trioxaundecyl)-borane*Boric acid* (H₃BO₃) 2-(2-butoxyethoxy)ethyl bis(3,6,9,12-tetraoxatridec-1-yl)ester, 10Cl

[74198-18-8]

H₃C(CH₂)₃O(CH₂CH₂O)₂B[(OCH₂CH₂)₄OMe]₂

M 586.523

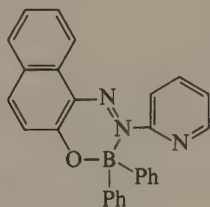
Used in brake fluids for automobiles. Moisture-sensitive.

Ger. Pat., 2 831 538, (1980); CA, **93**, 134858q (use)U.S.P., 4 192 759, (1980); CA, **94**, 86976y (synth, use)C₂₇H₂₀BN₃O

B-01288

Diphenyl[1-(2-pyridinylazo)-2-naphthalenolato]boron, 10Cl*Diphenyl*[1-(pyridyl-2-azo)-2-naphthyloxy]borane

[74302-97-9]



M 413.285

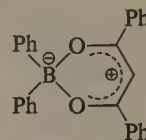
Black-red solid. Mp 190°.

Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316 (ms)Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 319 (synth, nmr)C₂₇H₂₁BO₂

B-01289

(1,3-Diphenyl-1,3-propanedionato-O,O')diphenylboron, 10Cl, 9Cl*Diphenylboryl* 1,3-diphenyl-1,3-propanedionate. 2,2-Dihydro-2,2,4,6-tetraphenyl-1,3,2-dioxaborinium hydroxide inner salt

[19426-82-5]



M 388.272

Yellow cryst. (C₆H₆, MeCN or EtOH), stable to atmosphere. Mp 227°.Neu, R., *Z. Anal. Chem.*, 1960, **176**, 343.Bally, I. *et al*, *Tetrahedron Lett.*, 1965, 3929 (uv)Dessy, R.E. *et al*, *J. Am. Chem. Soc.*, 1968, **90**, 2005.Trestianu, A. *et al*, *Tetrahedron*, 1968, **24**, 2499 (pmr)Bally, I. *et al*, *Rev. Roum. Chim.*, 1971, **16**, 739 (synth)Barabas, A., *J. Coord. Chem.*, 1973, **3**, 91.C₂₇H₂₄BN₃

B-01290

Diphenylboryl(N-methylbenzimidoyl)benzamidinate

[N-(Iminophenylmethyl)-N'-methylbenzenecarboximidamidato-N',N'']diphenylboron, 10Cl

[67574-75-8]

As [N-(Iminophenylmethyl)-N'-propylbenzenecarboximidamidato-N',N'']dipropylboron, B-01174 with

R = Ph

M 401.317

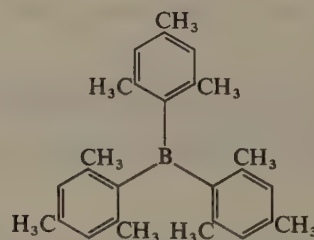
Cryst. (hexane). Chemically and thermally stable, can be stored in air. Mp 140-4°.

Zolotarev, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1312; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1140 (ms)Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 1385; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1205 (synth, ms, pmr, nmr)C₂₇H₃₃B

B-01291

Tris(2,4,6-trimethylphenyl)borane, 10Cl, 9Cl*Trimesitylborane*, 8Cl

[7297-95-2]



M 368.368

Prepd. from RMgBr and BF₃ in Et₂O. Synthetic intermed. Solid, remarkably resistant to oxidn. Sol. Et₂O, THF. Mp 190.5-191.5°.Brown, H.C. *et al*, *J. Am. Chem. Soc.*, 1957, **79**, 2302 (synth)Blount, J.F. *et al*, *J. Am. Chem. Soc.*, 1973, **95**, 7019 (cryst struct)Rogozhin, K.L. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1035; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1977, 949 (uv)Long, M.E., *J. Lumin.*, 1978, **16**, 177; CA, **88**, 112790f (spectra)Brown, N.M. *et al*, *J. Organomet. Chem.*, 1981, **209**, 1 (nmr, synth)Ramsey, B.G. *et al*, *J. Org. Chem.*, 1981, **46**, 179 (deriv, synth)

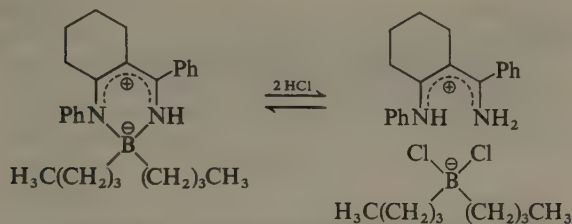
C₂₇H₃₇BN₂

B-01292

Dibutyl[N-(2-iminophenylmethyl)cyclohexylidene]benzenaminato-N,N']boron

Dibutyl(2-benzimidoyl-N-phenyl-1-cyclohexen-1-ylaminato)boron, 8Cl

[25513-17-1]



M 400.413

Mp 51-4°. Bp₁ 208-10°.

B, 2HCl: [69109-16-6].

C₂₇H₃₉BCl₂N₂ M 473.335

Poorly sol. most org. solvs. Mp >300° dec.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1843; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1704 (synth, ir, nmr)C₂₇H₅₇B

B-01293

Trinonylborane, 10Cl

[4002-27-1]



M 392.557

Prepd. by hydroboration of 1-nonene in THF at 0°. Synthetic intermed. for transfer of 1-nonyl group. Air-sensitive liq. Sol. THF and other nonpolar solvs. Prep. by hydroboration gives product containing ca. 6% of 2-nonyl groups.

Nikolaev, N.I., *Zh. Fiz. Khim.*, 1977, **51**, 2136.Pelter, A. *et al*, *Compr. Org. Chem.*, (Barton, D.H.R. *et al*, Ed.), 1979, **3**, 695 (rev)C₂₇H₅₇BO₃

B-01294

Trinonyloxyborane

Boric acid (H₃BO₃) trinonyl ester, 10Cl, 9Cl, 8Cl. Nonyl borate. Trinonyl borate. Trinonyl orthoborate.

Tris(nonyloxy)borane

[2467-14-3]

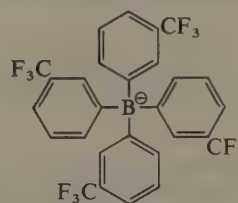


M 440.556

Moisture-sensitive liq. Sol. non-hydroxylic solvs. d₄²⁰ 0.858. Bp_{1.5} 228-30°. n_D²⁰ 1.4405.Arbuzov, B.A. *et al*, *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1952, 773 (synth, props)Maijs, L. *et al*, *CA*, 1971, **75**, 11843b; 1972, **77**, 157609t (props)Strauss, I. *et al*, *CA*, 1972, **77**, 145170e (props)Maijs, L. *et al*, *CA*, 1973, **79**, 131073e (pmr)C₂₈H₁₆BF₁₂[⊖]

B-01295

Tetrakis[3-(trifluoromethyl)phenyl]borate(1-), 10Cl



M 591.225 (ion)

Li salt: [70021-22-6].

C₂₈H₁₆BF₁₂Li M 598.166

Used in battery electrolytes.

U.S.P., 4 139 681, (1979); *CA*, **90**, 207210x (use)Ger. Pat., 2 901 367, (1979); *CA*, **92**, 61799p (use)Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 131.C₂₈H₁₆BF₁₂[⊖]

B-01296

Tetrakis[4-(trifluoromethyl)phenyl]borate(1-), 10Cl

M 591.225 (ion)

Li salt: [70021-21-5].

C₂₈H₁₆BF₁₂Li M 598.166

Used in battery electrolytes.

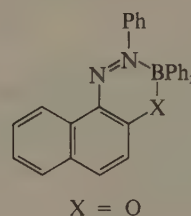
U.S.P., 4 139 681, (1979); *CA*, **90**, 207210x (use)Ger. Pat., 2 901 367, (1979); *CA*, **92**, 61799p (use)Horowitz, H.H. *et al*, *Proc. Electrochem. Soc.*, 1981, **81**, 131.C₂₈H₂₁BN₂O

B-01297

Diphenyl[1-(phenylazo)-2-naphthylloxy]borane

Diphenyl[1-(phenylazo)-2-naphthalenolato]boron, 10Cl

[74302-95-7]



M 412.297

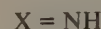
Dark-red cryst. (EtOH/C₆H₆). Mp 203°.Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316, 319 (ms, synth, ir, nmr)C₂₈H₂₂BN₃

B-01298

Diphenyl[1-(phenylazo)-2-naphthylamino]borane

Diphenyl[1-(phenylazo)-2-naphthalenaminato]boron, 10Cl [74302-98-0]

As Diphenyl[1-(phenylazo)-2-naphthylloxy]borane, B-01297 with



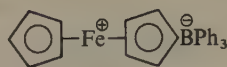
M 411.312

Black-violet cryst. Mp 198°.

Hohaus, E. *et al*, *Z. Naturforsch., B*, 1980, **35**, 316, 319 (ms, synth)

C₂₈H₂₄BFe**Ferroceniumyltriphenylborate(1-), 8Cl**

[33340-89-5]



M 427.155

Inner ferrocenium salt. Dark-green solid. Unstable in air, dec. slowly in soln. Mod. sol. CHCl₃, CH₂Cl₂, spar. sol. Me₂CO, MeNO₂, insol. Et₂O, hydrocarbons. Paramagnetic.

Nesmeyanov, A.N. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1971, **198**, 848; **200**, 1365 (*synth*)

C₂₈H₂₄B₂F₄O₄**B-01300**

Tetrafluoro[μ-[[1,1'-(1,4-phenylene)bis[3-(4-ethylphenyl)-1,3-propanedionato]](2-)-O¹, O³:O^{1'}, O^{3'}]]diboron, 10Cl
[67029-02-1]

As Tetrafluoro[μ-[[1,1'-(1,3-phenylene)bis[3-(4-methoxyphenyl)-1,3-propanedionato]](2-))]diboron, B-01276 with



M 522.109

Used in electrophotographic copying apparatus.

Ger. Pat., 2 749 768, (1978); *CA*, **89**, 110833u (*synth, use*)
Halm, J.M. *et al*, *Photogr. Sci. Eng.*, 1979, **23**, 252 (*use*)

C₂₈H₂₈BO₄[⊖]**B-01301****Tetrakis(benzyloxy)borate***Tetrakis(benzenemethanolato)borate(1-), 10Cl*

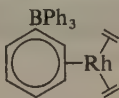
M 439.337 (ion)

Na salt: [65460-22-2].

C₂₈H₂₈BNaO₄ M 462.327

Moisture-sensitive, esp. in acid conds.

Adams, C. *et al*, *J. Chem. Soc., Perkin Trans. 2*, 1977, 1466, 1472 (*synth, props*)

C₂₈H₂₈BRh**B-01302****Bis(ethylene)[tetraphenylborato(1-)]rhodium, 8Cl***Bis(η²-ethene)(η⁶-tetraphenylborato)rhodium*

M 478.245

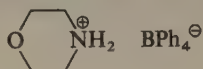
Yellow cryst. (CH₂Cl₂/MeOH).

Schrock, R.R. *et al*, *Inorg. Chem.*, 1970, **9**, 2339 (*synth, ir*)

C₂₈H₃₀BNO**B-01303****Morpholinium tetraphenylborate**

Hydrogen tetraphenylborate(1-) compd. with morpholine(1:1), 10Cl, 9Cl

[60587-19-1]



M 407.361

Used as catalyst for crosslinking of epoxy resins.

N-Me: See *N-Methylmorpholinium tetraphenylborate, B-01314*

Ger. Pat., 2 604 739, (1976); *CA*, **85**, 161259 (*use*)

Japan. Pat., 77 56 199, (1977); *CA*, **87**, 118785j (*use*)

Japan. Pat., 77 107 066, (1977); *CA*, **88**, 106411s (*use*)

C₂₈H₃₂BN**B-01304****Tetramethylammonium tetraphenylborate**

N,N,N'-Trimethylmethanaminium tetraphenylborate(1-), 10Cl, 9Cl

[15525-13-0]



M 393.378

Catalyst for polymn. of vinyl compds.; electrolyte.

Howick, L.C. *et al*, *Anal. Chim. Acta*, 1958, **19**, 342 (*synth, props*)

Netherlands Pat., 6 600 826, (1966); *CA*, **66**, 11401v (*use*)

Barker, B.J. *et al*, *J. Phys. Chem.*, 1974, **78**, 2689 (*props*)

Hoffmann, K. *et al*, *J. Organomet. Chem.*, 1974, **67**, 221

(*struct*)

Czapkiewicz, J. *et al*, *J. Chem. Soc., Faraday Trans. 1*, 1980, **76**, 1663 (*props*)

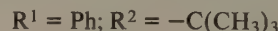
Popovych, O., *Solubility Data Ser.*, 1981, **18**, 106, 109, 110, 111.

C₂₈H₃₅BN₂O₂**B-01305**

1,5-Cyclooctanediyl[4,4-dimethyl-N-phenyl-N-[(phenylamino)carbonyl]-2-pentenamidato-O, O']boron, 10Cl

[78264-69-4]

As 1,5-Cyclooctanediyl[N-phenyl-N-[(phenylamino)carbonyl]-2-heptenamido-O, O']boron, B-01306 with



M 442.407

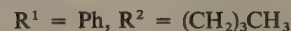
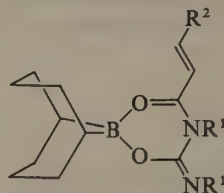
Formed in reaction of (*tert*-butylethynyl)-9-BBN with PhNCO. Yellow cryst. Mp 178-80°.

Singaram, B. *et al*, *Heterocycles*, 1981, **15**, 231 (*synth, nmr*)

C₂₈H₃₅BN₂O₂**B-01306**

1,5-Cyclooctanediyl[N-phenyl-N-[(phenylamino)carbonyl]-2-heptenamido-O, O']boron, 10Cl

[78264-70-7]



M 442.407

Prepd. by reaction of *B*-hexenyl-9-BBN with phenyl isocyanate. Yellow cryst. solid. Mp 128-30°. ¹¹B nmr + 7.4 ppm.

Singaram, B. *et al*, *Heterocycles*, 1981, **15**, 231 (*synth, nmr*)

C₂₈H₃₅BN₄S**B-01307**

(N,N'-Dicyclohexyl-N''-2-thiazolylguanidinato-N,N'')diphenylboron, 10Cl

Diphenylboryl 2-[(N,N'-dicyclohexylamidino)amino]-thiazolate

[78789-62-5]

As (N,N'-Dicyclohexyl-N''-2-thiazolylguanidinato-N,N'')bis(1-methylethyl)boron, B-01208 with



M 470.481

Yellow cryst. (EtOH); stable in air. Mp 159-61°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 869; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 649 (synth, ir, ms)C₂₈H₃₅BO

B-01308

4-*tert*-Butylphenoxybis(2,4,6-trimethylphenyl)borane*Bis*(2,4,6-trimethylphenyl)borinic acid 4-(1,1-dimethylethyl)phenyl ester, 10Cl. *Dimesitylborinic acid* 4-(1,1-dimethylethyl)phenyl ester. *Dimesityl*(4-*tert*-butylphenoxy)borane

[75260-17-2]

As Hydroxybis(2,4,6-trimethylphenyl)borane, B-01075 with

R = 4-*tert*-butylphenoxy

M 398.394

Colourless cryst. solid, stable in air. Sol. most org. solvs. Mp 175-6°. Slowly oxid. in soln.

Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1980, **193**, 271 (synth, nmr, cmr)Brown, N.M.D. *et al*, *J. Organomet. Chem.*, 1981, **210**, 1 (nmr)C₂₈H₄₇BN₂O₂

B-01309

[*N*-Cyclohexyl-*N*-[(cyclohexylamino)carbonyl]-2-heptenamido-*O*,*O'*]-1,5-cyclooctanedilboron, 10Cl

[78264-65-0]

As 1,5-Cyclooctanedil[*N*-phenyl-*N*-(phenylamino)carbonyl]-2-heptenamido-*O*,*O'*]boron, B-01306 withR¹ = cyclohexyl, R² = -(CH₂)₃CH₃

M 454.502

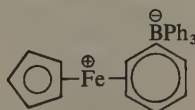
Yellow cryst. Mp 138-40°.

Singaram, B. *et al*, *Heterocycles*, 1981, **15**, 231 (synth, nmr)C₂₉H₂₅BFe

B-01310

(η⁵-2,4-Cyclopentadien-1-yl)[(η⁶-phenyl)triphenylborato(1-)]-iron, 10Cl

[74593-59-2]



M 440.174

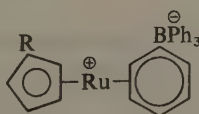
Zwitterionic complex. Mp 275-8° dec.

Slocum, D.W. *et al*, *J. Macromol. Sci., Chem., Part A*, 1981, **16**, 357 (synth)C₂₉H₂₅BRu

B-01311

(η⁵-2,4-Cyclopentadien-1-yl)[(η⁶-phenyl)triphenylborato(1-)]-ruthenium, 9Cl

[33680-33-0]



R = H

M 485.397

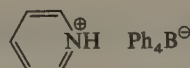
Zwitterionic complex. Brown cubes (MeOH), prob. air-stable. Sl. sol. most org. solvs. Λ 1.2 Ω⁻¹ cm² mol⁻¹ (Me₂CO).Kruger, G.J. *et al*, *J. Chem. Soc., Dalton Trans.*, 1974, 1302 (synth, pmr, ir, cryst struct)Haines, R.J. *et al*, *J. Organomet. Chem.*, 1975, **84**, 357 (synth, ir, pmr)C₂₉H₂₆BN

B-01312

Pyridinium tetraphenylborate

Hydrogen tetraphenylborate(1-), compd. with pyridine(1:1), 10Cl, 9Cl

[50328-28-4]



M 399.341

Crosslinking catalyst for epoxy resins. Antifouling agent.

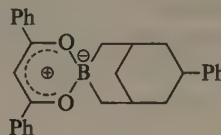
Clements, R. *et al*, *Mol. Struct.*, 1973, **17**, 265 (ir, raman)*Japan. Pat.*, 77 56 199, (1977); *CA*, **87**, 118785j (use)*Japan. Pat.*, 77 125 532, (1977); *CA*, **88**, 137975h (use)*Japan. Pat.*, 78 34 895, (1978); *CA*, **89**, 111372e (use)Popovych, O., *Solubility Data Ser.*, 1981, **18**, 97 (props)C₂₉H₂₉BO₂

B-01313

3-(1,3-Diphenyl-1,3-propanedionato)-3-borabicyclo[3.3.1]-nonane

(1,3-Diphenyl-1,3-propanedionato-*O*,*O'*)[(5-phenyl-1,3-cyclohexanediyl)bis(methylene)]boron, 10Cl

[76095-69-7]



M 420.357

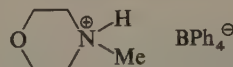
Orange cryst. Mp 180-3°.

Gursky, M.E. *et al*, *J. Organomet. Chem.*, 1980, **199**, 171 (nmr)Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 341; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 264 (nmr)Gurskii, M.E. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1981, 394; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 312 (synth, ir, pmr)C₂₉H₃₂BNO

B-01314

N-Methylmorpholinium tetraphenylborate*Hydrogen tetraphenylborate*(1-), compd. with 4-methylmorpholine(1:1), 10Cl

[61693-11-6]



M 421.388

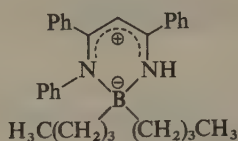
Used as crosslinking catalyst for epoxy resins, and as heat stabiliser.

Japan. Pat., 76 100 200, (1976); *CA*, **86**, 90980x (use)*Japan. Pat.*, 78 34 895, (1978); *CA*, **89**, 111372e (use)

C₂₉H₃₅BN₂

B-01315

Dibutyl[N-(3-imino-1,3-diphenylpropylidene)benzenaminato-N,N']boron, 10Cl
[64537-99-1]



M 422.419

Viscous orange liq., relatively stable to heat. Bp₁ 222°. n_D^{20} 1.5969.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1843; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1704 (*synth*, *ir*, *nmr*)

Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1978, 2574; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 2301.

C₂₉H₃₆BN₅

B-01316

(N,N'-Dicyclohexyl-N''-2-pyrimidinylguanidinato-N,N'-diphenylboron, 10Cl

Diphenylboryl 2-(N,N'-dicyclohexylamidino)-aminopyrimidine
[74313-99-8]

As (N,N'-Dicyclohexyl-N''-2-pyrimidinylguanidinato-N,N'')bis(1-methylethyl)boron, B-01224 with

R = Ph

M 465.447

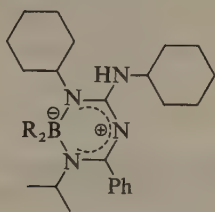
Cryst. (hexane); stable in air. Mp 183-7°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 659; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 481 (*synth*, *ms*, *ir*)

C₂₉H₄₉BN₄

B-01317

[N-[(Cyclohexylamino)(cyclohexylimino)methyl]-N'-(1-methylethyl)benzenecarboximidamido]dipropylboron, 10Cl
[70426-41-4]

R = H₃CCH₂CH₂—

M 464.543

Cryst. (hexane). Mp 114-7°.

Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, 245, 121 (*synth*)

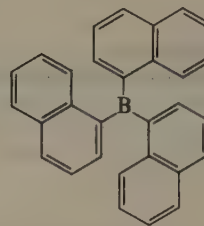
Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 663; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 495 (*synth*, *nmr*, *ms*, *ir*)

C₃₀H₂₁B

B-01318

Tri-1-naphthylborane, 8Cl

Tri-1-naphthalenylborane, 10Cl, 9Cl. Tri-1-naphthylborine. Tri-α-naphthylboron
[6962-78-3]



M 392.306

Prepd. from α-naphthylmagnesium bromide and BF₃·Et₂O. Synthetic intermed. Air-sensitive cryst. (Et₂O).

Sol. C₆H₆, CHCl₃, CCl₄, CS₂. Mp 203°. Blue fluor. Easily oxidised.

C₆H₆ solvate: Solid. Mp 170°.

NH₃ complex:

C₃₀H₂₄BN M 409.336

Sol. C₆H₆. Mp 193-4°.

Krause, E. *et al*, *Ber.*, 1930, 63, 934 (*synth*, *deriv*)

Nakayama, Y. *et al*, *Kogyo Kagaku Zasshi*, 1960, 63, 1477; *CA*, 56, 11778h (*synth*)

Krakovyak, M.G. *et al*, *Vysokomol. Soedin.*, 1966, 8, 1890; *CA*, 66, 18887s (*use*)

DuPont, T.J. *et al*, *J. Am. Chem. Soc.*, 1975, 97, 6375 (*props*)

Ramsey, B.G. *et al*, *J. Am. Chem. Soc.*, 1977, 99, 3182 (*props*)

Long, M.E. *et al*, *J. Lumin.*, 1978, 16, 177; *CA*, 73, 72398r (*uv*)

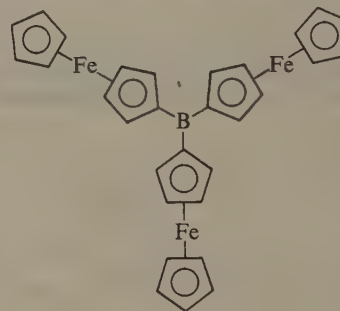
C₃₀H₂₇BFe₃

B-01319

Triferrocenylboron

1,1'',1'''-Borylidynetrisferrocene, 9Cl

[12637-02-4]



M 565.894

Red cryst.

Ferrocene adduct (1:3): Red-orange cryst. (EtOH).

NH₃ adduct:

C₃₀H₃₀BFe₃N M 582.925

Yellow powder (C₆H₆/Et₂O). Mp 180-1° dec.

Post, E.W. *et al*, *Inorg. Chem.*, 1970, 9, 1670 (*synth*)

Painter, W.J., *Diss. Abs. Int. B*, 1971, 31, 6482 (*synth*)

C₃₀H₂₇BRu

B-01320

[(1,2,3,4,5-η)-1-Methyl-2,4-cyclopentadien-1-yl][(η⁶-phenyl)triphenylborato(1-)]ruthenium, 9Cl

[55326-91-5]

As (η⁵-2,4-Cyclopentadien-1-yl)[(η⁶-phenyl)triphenylborato(1-)]ruthenium, B-01311 with

R = CH₃

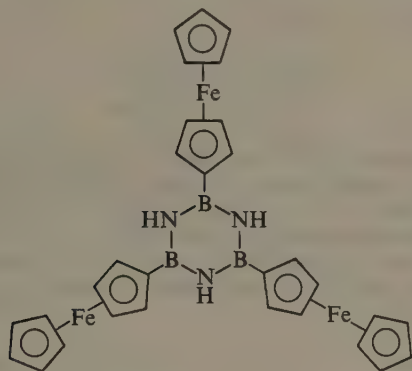
M 499.423

Zwitterionic complex. Brown cryst. (MeOH), prob. air-stable.

Haines, R.J. *et al*, *J. Organomet. Chem.*, 1975, **84**, 357 (*synth*, *ir*, *pmr*)C₃₀H₃₀B₃Fe₃N₃

B-01321

2,4,6-Triferrocenylborazine

1,1'',1'''-(2,4,6-Borazinetriyl)trisferrocene, 9Cl
[11136-43-9]

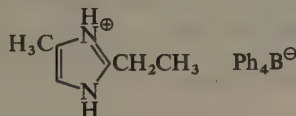
M 632.558

Orange cryst. (toluene). Mp 259°.

Painter, W.J., *Diss. Abs. Int. B*, 1971, **31**, 6520 (*synth*)Kotz, J.C. *et al*, *J. Organomet. Chem.*, 1971, **32**, 231 (*synth*, *ms*, *pmr*, *uv*, *ir*)C₃₀H₃₁BN₂

B-01322

2-Ethyl-4-methylimidazolium tetraphenylborate

Hydrogen tetraphenylborate(1-), compd. with 2-ethyl-4-methyl-1H-imidazole(1:1), 10Cl, 9Cl
[53831-70-2]

M 430.398

Catalyst for crosslinking of epoxy resins.

Ger. Pat., 2 422 372, (1975); CA, **84**, 46315u (*use*)Japan. Pat., 77 56 199, (1977); CA, **87**, 118785j (*use*)C₃₀H₃₂B₂N₂S₂

B-01323

Tetramethylbis[μ-(N-phenylbenzenecarbothioamidato-N:S)]diboron, 10Cl

[63835-75-6]

As Tetramethylbis[N-(N-phenylethanethioamidato-N:S)]diboron, B-01147 with

R = Ph, R' = Me

M 506.336

Liq. Sol. CH₂Cl₂. Bp_{0.01} 144-7°.Maringgele, W. *et al*, *J. Organomet. Chem.*, 1977, **141**, 241 (*synth*, *nmr*, *ms*)Maringgele, W. *et al*, *Monatsh. Chem.*, 1977, **108**, 751.C₃₀H₃₆BN

B-01324

Triethylammonium tetraphenylborate

Hydrogen tetraphenylborate(1-) compd. with N,N-diethylethanamine(1:1), 10Cl, 9Cl

[53860-54-1]

Et₃NH⁺Ph₄B⁻

M 421.431

Catalyst for crosslinking of epoxy resins. Stable for long periods at 25°.

Barker, B.J. *et al*, *J. Phys. Chem.*, 1974, **78**, 2687 (*props*)Ger. Pat., 2 422 372, (1975); CA, **84**, 46315u (*use*)Japan. Pat., 77 56 199, (1977); CA, **87**, 118785jC₃₀H₃₇BN₄

B-01325

(N,N''-Dicyclohexyl-N'-2-pyridinylguanidinato-N'',N'')-diphenylboron, 10Cl

Diphenylboryl 2-[(N,N'-dicyclohexylamido)amino]-pyridinate

[70440-08-3]

As (N,N''-Dicyclohexyl-N'-2-pyridinylguanidinato-N'',N'')diethylboron, B-01207 with

R = Ph

M 464.459

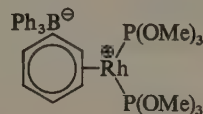
Yellow cryst. (EtOH); stable in air and H₂O. Sol. C₆H₆, pet. ether. Mp 129-30°.Dorokhov, V.A. *et al*, *Dokl. Akad. Nauk SSSR, Ser. Sci. Khim.*, 1979, **245**, 121 (*synth*)Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, **659**; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 481 (*synth*, *ms*, *ir*)C₃₀H₃₈BO₆P₂Rh

B-01326

[(η⁶-Phenyl)triphenylborato(1-)]bis(trimethyl phosphite-P)-rhodium, 9Cl

Bis(phosphorous acid)[tetraphenylborato(1-)]rhodium, hexamethyl ester, 8Cl. (Tetraphenylboron)bis(trimethyl phosphite)rhodium

[33362-35-5]



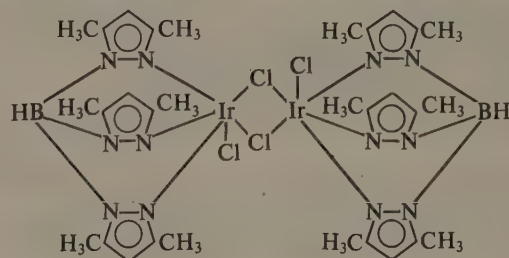
M 670.290

Yellow cryst. (CH₂Cl₂/MeOH). Mp 163-5°.Haines, L.M. *et al*, *Inorg. Chem.*, 1971, **10**, 1685 (*synth*, *ir*, *pmr*, *cryst struct*)Nolte, M.J. *et al*, *Acta Crystallogr., Sect. B*, 1974, **30**, 738 (*cryst struct*)C₃₀H₄₄B₂Cl₄Ir₂N₁₂

B-01327

Di-μ-chlorodichlorobis[tris(3,5-dimethyl-1H-pyrazolato-N¹)hydroborato(1-)-N²,N^{2'},N^{2''}]diiridium, 10Cl
μ-Dichlorobis[[hydrotris(3,5-dimethylpyrazolyl)-borato]chloroiridium]

[73117-58-5]



M 1120.630

Bridged dimer. Starting material for hydrotris(3,5-dimethylpyrazolyl)borato-iridium complexes. Pale-orange prisms (EtOH). Mp 245-5°.

Monomer:C₁₅H₂₂BCl₂IrN₆ M 560.315

Unknown

May, S. *et al*, *Inorg. Chem.*, 1980, **19**, 1582 (synth, pmr)**C₃₀H₆₀B⁺****B-01328****1-Hexynyltriocylborate(1-), 10Cl, 9Cl**

M 431.614 (ion)

Li salt: [50543-71-0].C₃₀H₆₀BLi M 438.555Prepd. *in situ* from hexynyllithium and triocylborane. Synthetic intermed.Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1973, 544 (use)Pelter, A. *et al*, *J. Chem. Soc., Perkin Trans. 1*, 1976, 2419, 2428, 2435 (synth, use)Pelter, A. *et al*, *Tetrahedron Lett.*, 1981, **22**, 797 (props)**C₃₀H₆₃B****B-01329****Tris(decyl)borane, 10Cl, 9Cl, 8Cl***Tridecylborane*

[1188-96-1]



M 434.638

Prepd. by hydroboration of 1-decene with BH₃·THF.This produces a product containing ca. 6% of 2-decyl groups. Synthetic intermed., generally prepd. *in situ*, for transfer of a 1-decyl group. Air-sensitive oil. Sol. THF, nonpolar solvs. d₂₅ 0.807. Bp₅ 205-8°. n_D²⁵ 1.4543.Köster, R., *Justus Liebigs Ann. Chem.*, 1958, **618**, 31 (synth)Köster, R., *Justus Liebigs Ann. Chem.*, 1976, 1116 (use)Nikolaev, N.I. *et al*, *CA*, 1979, **90**, 71606w.Utimoto, K. *et al*, *Tetrahedron*, 1977, **33**, 1945 (use)Vasil'ev, L.S. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1977, 1126; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1031 (use)Kabalka, G.W. *et al*, *J. Org. Chem.*, 1981, **46**, 4296 (synth)**C₃₀H₆₃BO₃****B-01330****Tri(decyloxy)borane***Boric acid (H₃BO₃) tris(decyl) ester, 10Cl, 9Cl, 8Cl. Tridecyl borate. Tris(decyloxy)borane. Tridecyl orthoborate. Decyl borate*

[20236-81-1]



M 482.636

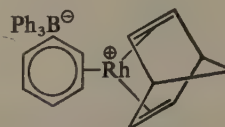
Insect sterilant, stabilizer for polyamides. Moisture-sensitive liq. Sol. non-hydroxylic solvs. d₄²⁰ 0.858. Bp_{0.5} 273-6°. n_D²⁰ 1.4440.Arbuzov, B.A. *et al*, *Compt. Rend. Acad. Sci. URSS*, 1947, **55**, 411 (synth)Young, D.M. *et al*, *J. Org. Chem.*, 1961, **26**, 2158 (synth, props)Maijs, L. *et al*, *CA*, 1968, **68**, 117885n (props)Strauss, I. *et al*, *CA*, 1972, **77**, 145170e (props)Maijs, L. *et al*, *CA*, 1972, **77**, 157609t (props)Novak, F.I. *et al*, *CA*, 1979, **90**, 167981r (props)**C₃₁H₂₈BN₃****B-01331****(N,N'-Diphenylguanidine-N'')triphenylboron, 10Cl***Triphenylborane N,N'-diphenylguanidine. N,N'-Diphenylguanidine, compd. with triphenylborane (1:1)*

[73895-21-3]

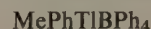


M 453.392

Cryst. (EtOH). Mp 156°.

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 368; *J. Gen. Chem. USSR (Engl. Transl.)*, 301Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 880.**C₃₁H₂₈BRh****B-01332**[(2,3,5,6-η)-Bicyclo[2.2.1]hepta-2,5-diene][(η⁶-phenyl)tri-phenylborato(1-)]rhodium, 10Cl
(2,5-Norbornadiene)[tetraphenylborato(1-)]rhodium, 8Cl
[31884-67-0]

M 514.278

Pale-yellow cryst. (CH₂Cl₂/EtOH).Schrock, R.R. *et al*, *Inorg. Chem.*, 1970, **9**, 2339 (synth, ir, pmr)Oro, L.A. *et al*, *J. Organomet. Chem.*, 1978, **148**, 81 (synth, ir)**C₃₁H₂₈BTl****B-01333****Methyl(phenyl)(tetraphenylborato-B)thallium***Methyl(phenyl)thallium tetraphenylborate*

M 615.755

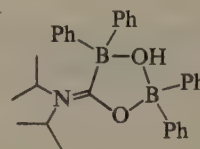
Mp >250°.

► Toxic

Kurosawa, H. *et al*, *J. Organomet. Chem.*, 1968, **12**, 241.**C₃₁H₃₅B₂NO₂****B-01334****5-Diisopropyliminio-2,2,4,4-tetraphenyl-2,4-diborata-1-oxa-3-oxoniacyclopentane**

[μ-[[Bis(1-methylethyl)amino]carbonyl-C:O]]-μ-hydroxytetraphenylidiboron, 10Cl, 9Cl

[71781-96-9]



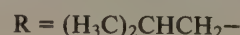
M 475.243

Forms stable cryst. 1:1 complexes with simple amides as well as with amines. Solid (Et₂O/hexane). Mp 179°.Fletcher, A.S. *et al*, *J. Chem. Soc., Chem. Commun.*, 1979, 347, 573 (synth, struct, ir, pmr, nmr)Fletcher, A.S. *et al*, *Heterocycles*, 1982, **18**, 107.**C₃₁H₅₃BN₄****B-01335**

[N-[(Cyclohexylamino)(cyclohexylimino)methyl]-N'-(1-methylethyl)benzenecarboximidamido]bis(2-methylpropyl)-boron, 10Cl

[74323-74-3]

As [N-[(Cyclohexylamino)(cyclohexylimino)methyl]-N'-(1-methylethyl)benzenecarboximidamido]dipropyl-boron, B-01317 with



M 492.597

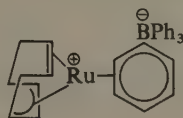
Cryst. (hexane). Mp 71-6°.

Dorokhov, V.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 663; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 495 (*synth, spectra*)

C₃₂H₃₁BRu

B-01336

[(1,2,3,5,6- η)-2,5-Cyclooctadien-1-yl][(η^6 -phenyl)triphenylborato(1-)]ruthenium
[65297-47-4]



M 527.477

Pale-yellow cryst. Sl. sol. Py, extremely insol. other org. solvs. Mp 200°. Struct. and spectra also determined for the more sol. PhBF₃ analogue.

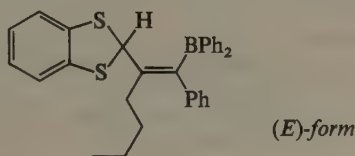
Ashworth, T.V. *et al*, *J. Chem. Soc., Chem. Commun.*, 1977, 937 (*synth, struct*)

Ashworth, T.V. *et al*, *J. Chem. Soc., Dalton Trans.*, 1977, 1809 (*synth, ir*)

C₃₂H₃₁BS₂

B-01337

[2-(1,3-Benzodithiol-2-yl)-1-phenyl-1-heptenyl]diphenylborane, 10Cl



M 490.527

Formed in reaction of lithium heptynyltriphenylborate with 1,3-benzodithiolium tetrafluoroborate. Synthetic intermed.

(*E*)-form [78605-83-1]

Major isom. formed during prepn. (ca. 84%).

(*Z*)-form [78605-87-5]

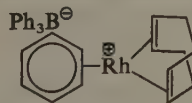
Minor isom. (ca. 16%).

Pelter, A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1981, 164 (*synth, pmr*)

C₃₂H₃₂BRh

B-01338

[(1,2,5,6- η)-1,5-Cyclooctadiene][(η^6 -phenyl)triphenylborato(1-)]rhodium, 9Cl
(1,5-Cyclooctadiene)[(tetraphenylborato(1-)]rhodium, 8Cl
[31974-01-3]



M 530.320

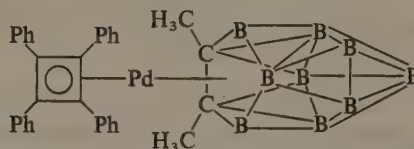
Pale-yellow cryst. Spar. sol. org. solvs.

Schrock, R.R. *et al*, *Inorg. Chem.*, 1970, 9, 2339 (*synth, ir*)

C₃₂H₃₅B₉Pd

B-01339

(1,2,3,4-Tetraphenyl-1,3-cyclobutadiene)[nonahydro-1,2-dimethyl-1,2-dicarbaundecaborato(2-)]palladium, 8Cl
[12118-93-3]



M 623.339

Cryst. (CH₂Cl₂/hexane). Mp >325° dec.

Wegner, P.A. *et al*, *J. Chem. Soc., Chem. Commun.*, 1966, 861 (*synth, ir, pmr, nmr*)

C₃₂H₃₈B₂Fe₂N₂O₄

B-01340

Di- μ -carbonyldicarbonylbis[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]diiron, 10Cl

Bis(1-tert-butyl-2,3-dihydro-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl)tetracarbonyldiiron

As Di- μ -carbonyldicarbonylbis[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]diiron, B-01149 with

R = Ph, R' = CH₃

M 647.977

cis-form [72444-61-2]

Red-brown cryst. (CH₂Cl₂).

trans-form [75109-70-5]

Red cryst. (toluene). Dec. >150°. Isomerises to *cis*-form at 90°.

Schulze, J. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1980, 19, 54 (*synth, ir, pmr, nmr*)

Schulze, J. *et al*, *Chem. Ber.*, 1980, 113, 2348 (*synth, ir, pmr, nmr, struct*)

C₃₃H₂₈BTl

B-01341

Methyl(phenylethynyl)tetraphenylborato-*B*thallium

PhC $\equiv$ CTlMeBPh₄

M 639.777

Mp >250°.

Kurosawa, H. *et al*, *J. Organomet. Chem.*, 1968, 12, 241 (*synth, ir*)

C₃₃H₃₄BN

B-01342

Phenyltrimethylammonium tetraphenylborate

N,N,N-Trimethylbenzenaminium tetraphenylborate(1-), 10Cl. Phenyltrimethylammonium tetraphenylboranate
[71111-17-6]

PhNMe₃⁺Ph₄B⁻

M 455.448

Solid. Mp 217-8°.

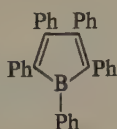
Arbuzov, B.A. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1979, 1631; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 28, 1508 (*synth*)

Caruso, J.A., *J. Solution Chem.*, 1979, 8, 197 (*nmr*)

C₃₄H₂₅B

Pentaphenylborole, 10Cl, 9Cl, 8Cl

[20195-59-9]



M 444.382

A highly reactive nucleus, readily undergoing oxidn., partial protolysis and the Diels-Alder reaction with dienophiles of low reactivity. Dark-blue cryst. solid (C₆H₆/EtOH); water-sensitive. Mp 120°, 175° dec., 243-5°.

In early reports erroneously descr. as pale-yellow.

Cyclopentadienylcobalt complex: [75673-97-1]. (η⁵-2,4-Cyclopentadien-1-yl)[(1,2,3,4,5-η)-1,2,3,4,5-pentaphenyl-1H-borole]cobalt.

C₃₉H₃₀BCo M 568.409

Orange needles (Et₂O). Sol. toluene, CH₂Cl₂, Me₂CO, Et₂O, insol. pentane. Mp 325-9°.

Tricarbonyliron complex: see Tricarbonyl[(1,2,3,4,5-η)-1,2,3,4,5-pentaphenyl-1H-borole]iron, B-01360

Dicarbonylnickel complex: [60840-46-2]. Dicarbonyl[(1,2,3,4,5-η)-1,2,3,4,5-pentaphenyl-1H-borole]nickel.

C₃₆H₂₅BNiO₂ M 559.092

Wine-red light-sensitive cryst. (CH₂Cl₂); air-sensitive in soln. Sol. toluene, CH₂Cl₂. Mp 214-6° dec.

(Cyclooctadiene)platinum complex: [75673-98-2].

[(1,2,5,6-η)-1,5-Cyclooctadiene][(1,2,3,4,5-η)-1,2,3,4,5-pentaphenyl-1H-borole]platinum.

C₄₂H₃₇BPt M 747.644

Yellow cryst. (pentane/CH₂Cl₂). Sol. CH₂Cl₂, CHCl₃, CS₂, toluene, THF, Me₂CO. Mp 198°.

Braye, W.H. *et al*, *J. Am. Chem. Soc.*, 1961, **83**, 4406 (synth)

Eisch, J.J. *et al*, *J. Am. Chem. Soc.*, 1969, **91**, 4575 (synth, use, nmr)

Eisch, J.J. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 4436.

Eisch, J.J. *et al*, *J. Organomet. Chem.*, 1977, **127**, C9.

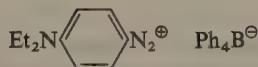
Herberich, G.E. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, **16**, 42 (props)

Herberich, G.E. *et al*, *J. Organomet. Chem.*, 1980, **195**, 253 (synth, derivs, pmr, ms)

C₃₄H₃₄BN₃

4-(Diethylamino)benzenediazonium tetraphenylborate(1-), 10Cl

[77569-52-9]



M 495.473

Used in photoimaging.

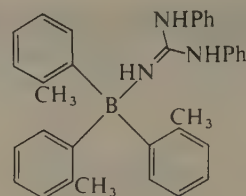
Rehorek, D. *et al*, *J. Prakt. Chem.*, 1980, **322**, 872 (props)
Ger. Pat., 146 350, (1981); *CA*, **95**, 71100e (use)

B-01343

C₃₄H₃₄BN₃

(N,N'-Diphenylguanidine-N'')tris(2-methylphenyl)boron, 10Cl
Tri-o-tolylborane N,N'-diphenylguanidine. N,N'-Diphenylguanidine, compd. with tris(2-methylphenyl)borane(1:1)

[73895-24-6]



M 495.473

Cryst. (EtOH).

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 368; *J. Gen. Chem. USSR (Engl. Transl.)*, 301

Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 880.

C₃₄H₃₄BN₃

(N,N'-Diphenylguanidine-N'')tris(3-methylphenyl)boron, 10Cl
Tri-m-tolylborane N,N'-diphenylguanidine. N,N'-Diphenylguanidine, compd. with tris(3-methylphenyl)borane(1:1)

[73895-23-5]

M 495.473

Cryst. (EtOH).

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 368; *J. Gen. Chem. USSR (Engl. Transl.)*, 301

Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 880.

C₃₄H₃₄BN₃

(N,N'-Diphenylguanidine-N'')tris(4-methylphenyl)boron, 10Cl
Tri-p-tolylborane N,N'-diphenylguanidine. N,N'-Diphenylguanidine, compd. with tris(4-methylphenyl)borane(1:1)

[73895-22-4]

M 495.473

Cryst. (EtOH).

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 368; *J. Gen. Chem. USSR (Engl. Transl.)*, 301 (synth)

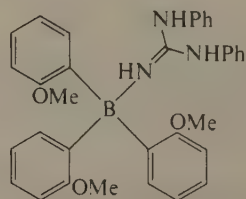
Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 880.

C₃₄H₃₄BN₃O₃

(N,N'-Diphenylguanidine-N'')tris(2-methoxyphenyl)boron, 10Cl

Tris(o-methoxyphenyl)borane N,N'-diphenylguanidine. N,N'-Diphenylguanidine, compd. with tris(2-methoxyphenyl)borane(1:1)

[73895-26-8]



M 543.471

Cryst. (EtOH).

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 368; *J. Gen. Chem. USSR (Engl. Transl.)*, 301

B-01344

B-01347

B-01348

Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 880.

C₃₄H₃₄BN₃O₃ **B-01349**

(*N,N'*-Diphenylguanidine-*N''*)tris(4-methoxyphenyl)boron,
10Cl
Tris(*p*-methoxyphenyl)borane *N,N'*-diphenylguanidine.
N,N'-Diphenylguanidine, compd. with *tris*(4-methoxy-
phenyl)borane(1:1)

[73895-27-9]

M 543.471

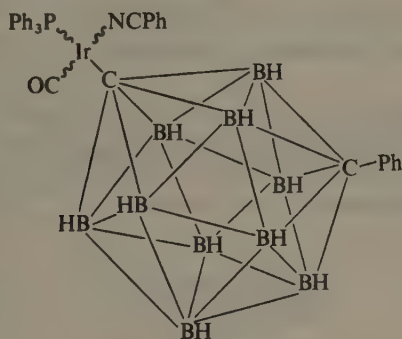
Cryst. (EtOH).

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 368; *J. Gen. Chem. USSR (Engl. Transl.)*, 301

Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 880.

C₃₄H₃₅B₁₀IrNOP **B-01350**

Benzonitrilecarbonyl(triphenylphosphine)[7-phenyl-1,7-di-
carba-*closo*-dodecaborane(12)]iridium, 9Cl
[70700-96-8]



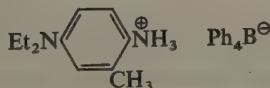
M 804.950

Stereochem. not assigned. Effective catalyst for homoge-
neous hydrogenation of terminal olefins and acetylenes.
Yellow cryst. (C₆H₆/hexane). Mp 191°. *ir* ν_{CN} 2258w,
ν_{CO} 1980vs cm⁻¹ (nujol).

Longato, B. *et al*, *Inorg. Chim. Acta*, 1979, **33**, 189 (*synth*, *ir*)
Morandini, F. *et al*, *J. Organomet. Chem.*, 1982, **239**, 377 (*use*)

C₃₅H₃₉BN₂ **B-01351**

4-Diethylamino-2-methylphenylammonium tetraphenylbo-
rate
Hydrogen tetraphenylborate(1-), compd. with *N*⁴,*N*⁴-
diethyl-2-methyl-1,4-benzenediamine(1:1), 10Cl
[78802-91-2]



M 498.517

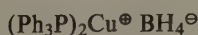
Used in photographic developing.

Japan. Pat., 81 06 235, (1981); *CA*, **95**, 141970q (*use*)

European Pat., 29 722, (1981); *CA*, **95**, 229247v (*use*)

C₃₆H₃₄BCuP₂ **B-01352**

Bis(triphenylphosphine)copper(1+) tetrahydroborate(1-),
10Cl, 9Cl, 8Cl
[34010-85-0]



M 602.968

Used in photoimaging materials. Selective reducing agent
for aldehydes and ketones.

Reichle, W.T., *Inorg. Chim. Acta*, 1971, **5**, 325.

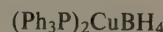
U.S.P., 3 859 092, (1975); *CA*, **83**, 35746p

Clarke, S.J. *et al*, *J. Chem. Res. (S)*, 1981, 17 (*use*)

Fleet, G.W.J. *et al*, *Tetrahedron Lett.*, 1980, **21**, 4031 (*use*)

C₃₆H₃₄BCuP₂ **B-01353**

[Tetrahydroborato(1-)-*H, H'*]bis(triphenylphosphine)copper,
9Cl
Bis(triphenylphosphine)copper(I) borohydride
[16903-61-0]



M 602.968

Reducing agent for converting RCOC(1) → RCHO. Cryst.
(CHCl₃/EtOH). Sol. H₂O, org. solvs. Mp 164° dec.,
177° dec. Forms C₆H₆ solvate, Mp 187°.

Davidson, J.M., *Chem. Ind. (London)*, 1964, 2021 (*synth*)

Cariati, F. *et al*, *Gazz. Chim. Ital.*, 1965, **95**, 3 (*synth*)

Lippard, S.J. *et al*, *J. Am. Chem. Soc.*, 1967, **89**, 3929 (*cryst*
struct)

Fleet, G.W.J. *et al*, *Tetrahedron Lett.*, 1978, 1437 (*use*)

Sorell, T.N. *et al*, *J. Org. Chem.*, 1980, **45**, 3449 (*synth*, *use*)

Fieser, M. *et al*, *Reagents for Organic Synthesis*, Wiley, 1967-
83, **8**, 47.

C₃₆H₃₉BN₂O₂ **B-01354**

1,5-Cyclooctanediyl[*N*-1-naphthalenyl-*N*-[(1-naphthalenyla-
mino)carbonyl]-2-heptenamidato-*O, O'*]boron, 10Cl
[78264-64-9]

As 1,5-Cyclooctanediyl[*N*-phenyl-*N*-[(phenylamino)car-
bonyl]-2-heptenamidato-*O, O'*]boron, B-01306 with



M 542.526

Prepd. by reaction of *B*-hexenyl-9-BBN with 1-naphthyl
isocyanate. Yellow cryst. Mp 129-31°. ¹¹B nmr + 8.6
ppm.

Singaram, B. *et al*, *Heterocycles*, 1981, **15**, 231 (*synth*, *nmr*)

C₃₆H₄₈BN **B-01355**

Tetrapropylammonium tetraphenylborate
N,N,N-Tripropyl-1-propanaminium tetraphenylbo-
rate(1-), 10Cl, 9Cl
[15556-39-5]



M 505.592

Electrolyte. Cryst. (H₂O). Mp 248°.

Lind, J.E. *et al*, *J. Phys. Chem.*, 1966, **70**, 3610 (*struct*, *synth*)

James, C.J. *et al*, *J. Solution Chem.*, 1975, **4**, 91 (*props*)

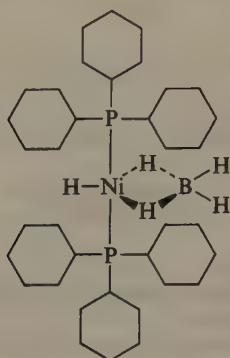
Gros, M. *et al*, *J. Electroanal. Chem. Interfacial Electrochem.*,
1978, **89**, 29; *CA*, **89**, 12543e.

Popovych, O., *Solubility Data Ser.*, 1981, **18**, 112, 113, 114.

C₃₆H₇₁BNiP₂

B-01356

Hydro[tetrahydroborato(1-)-H,H']bis(tricyclohexylphosphine)nickel, 9Cl
 Hydridobis(tricyclohexylphosphine)nickel tetrahydroborate. Bis(tricyclohexylphosphine)hydridonickel borohydride



M 635.404

trans-form [24899-12-5]

Bright-yellow cryst., stable at r.t. Fairly stable in air, but soln. dec. in a few minutes. Sol. C₆H₆. Mp 121-5° dec.

Green, M.L.H. *et al*, *J. Chem. Soc., Dalton Trans.*, 1969, 1287 (synth, ir, pmr)

Inorg. Synth., 1977, 17, 88 (synth, ir, nmr)

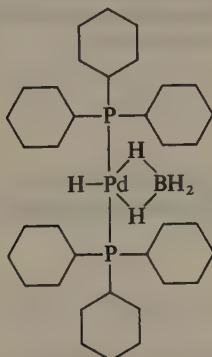
Saito, T. *et al*, *J. Chem. Soc., Dalton Trans.*, 1978, 482 (struct)

C₃₆H₇₁BP₂Pd

B-01357

Hydro[tetrahydroborato(1-)-H,H']bis(tricyclohexylphosphine)palladium, 9Cl
 Bis(tricyclohexylphosphine)hydridopalladium tetrahydroborate.
 Hydridoborohydridobis(tricyclohexylphosphine)palladium

[30916-06-4]



M 683.134

Precursor of catalyst for oligomerization of butadiene.

Cryst. (EtOH aq.). Mp 135-8° dec.

Green, M.L.H. *et al*, *J. Chem. Soc. (A)*, 1971, 469 (synth, ir, pmr)

Green, M.L.H. *et al*, *J. Chem. Soc., Dalton Trans.*, 1974, 269 (use)

Inorg. Synth., 1977, 17, 88 (synth, ir, pmr)

C₃₆H₇₅BO₃

B-01358

Bis(octadecyloxy)hydroxyborane

Boric acid (H₃BO₃) dioctadecyl ester, 10Cl. Bis(octadecyl) borate

[72241-51-1]



M 566.797

Used as antistatic agent for vinyl chloride polymers.

Moisture-sensitive.

Japan. Pat., 79 86 546, (1979); *CA*, 92, 23543t (use)

Japan. Pat., 81 10 539, (1981); *CA*, 95, 44166z (use)

C₃₆H₇₅BO₃

B-01359

Tridodecyloxyborane

Boric acid (H₃BO₃) tridodecyl ester, 10Cl, 9Cl, 8Cl. Dodecyl borate. Tridodecyl borate. Tris(dodecyloxy)borane. Tridodecyl orthoborate

[2467-15-4]



M 566.797

Plasticizer for polycarbonates. Moisture-sensitive liq. d₄²⁷ 0.845. Bp_{3,5} 287-8°. n_D²⁵ 1.4472.

▷ED5000000.

Steinberg, H. *et al*, *Ind. Eng. Chem.*, 1957, 49, 174 (synth, props)

Potuis, S.P. *et al*, *CA*, 1970, 72, 67624m (use)

Maijs, L. *et al*, *CA*, 1973, 79, 131073e (pmr)

U.S.P., 4 211 679, (1980); *CA*, 93, 169189z

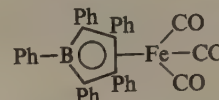
C₃₇H₂₅BFeO₃

B-01360

Tricarbonyl[(1,2,3,4,5-η)-1,2,3,4,5-pentaphenyl-1H-borole]iron, 10Cl

Pentaphenylborole iron tricarbonyl

[60840-47-3]



M 584.260

Pale-yellow cryst. (pentane/CH₂Cl₂). Sol. toluene, CH₂Cl₂; stable to H₂O. Mp 218-20°. Sensitive to light and air in soln.

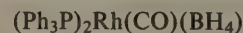
Herberich, G.E. *et al*, *Angew. Chem., Int. Ed. Engl.*, 1977, 16, 42 (synth, pmr, ir, ms)

C₃₇H₃₄BOP₂Rh

B-01361

Carbonyl[tetrahydroborato(1-)-H,H']bis(triphenylphosphine)rhodium, 9Cl

[36606-35-6]



M 670.338

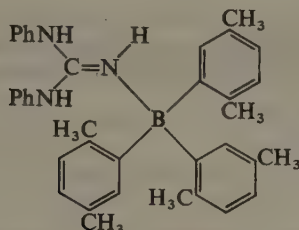
Thought to contain doubly bridging BH₄ moiety. Yellow cryst. ir ν_{BH} 2452, 2416, ν_{CO} 1955 cm⁻¹ (nujol). Stable in air as solid but dec. rapidly in soln.

Flynn, B.R. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 1615 (synth, ir, pmr)

C₃₇H₄₀BN₃

B-01362

Tris(2,5-dimethylphenyl)borane N,N'-diphenylguanidine
Tris(2,5-dimethylphenyl)(N,N'-diphenylguanidine-N'')boron, 10Cl. N,N'-Diphenylguanidine compd. with tris(2,5-dimethylphenyl)borane (1:1). Tris(2,5-xylyl)borane compd. with 1,3-diphenylguanidine
[73895-25-7]



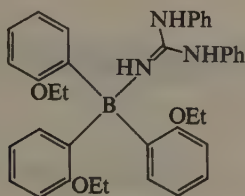
M 537.553
Mp 109° dec.

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 368 (*synth, ir, pmr*)
Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 880.

C₃₇H₄₀BN₃O₃

B-01363

(N,N'-Diphenylguanidine-N'')tris(2-ethoxyphenyl)boron, 10Cl
Tris(o-ethoxyphenyl)borane N,N'-diphenylguanidine.
N,N'-Diphenylguanidine, compd. with tris(2-ethoxyphenyl)borane (1:1)
[73895-28-0]



M 585.551
Cryst. (EtOH).

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 368; *J. Gen. Chem. USSR (Engl. Transl.)*, 301
Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 880.

C₃₇H₄₀BN₃O₃

B-01364

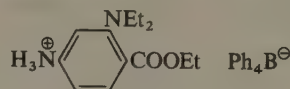
(N,N'-Diphenylguanidine-N'')tris(4-ethoxyphenyl)boron, 10Cl
Tris(p-ethoxyphenyl)borane N,N'-diphenylguanidine.
N,N'-Diphenylguanidine, compd. with tris(4-ethoxyphenyl)borane (1:1)
[73895-29-1]
M 585.551
Cryst. (EtOH).

Lapkin, I.I. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 368; *J. Gen. Chem. USSR (Engl. Transl.)*, 301
Yuzhakova, G.A. *et al*, *Zh. Obshch. Khim.*, 1981, **51**, 880.

C₃₇H₄₁BN₂O₂

B-01365

4-(Ethoxycarbonyl)-3-diethylaminophenylammonium tetraphenylborate
Hydrogen tetraphenylborate(1-), compd. with 2-(diethylamino)ethyl 4-aminobenzoate (1:1), 10Cl
[65281-20-1]

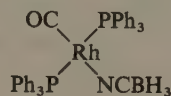


M 556.553
Used as liq. membrane electrode for novocaine and pharmaceutical cation detn.
Hopartean, E. *et al*, *CA*, 1978, **88**, 66019m.
Negoiu, D. *et al*, *Talanta*, 1981, **28**, 377 (*use*)

C₃₈H₃₃BNOP₂Rh

B-01366

Carbonyl[(cyano-C)trihydroborato(1-)-N)]bis(triphenylphosphine)rhodium, 9Cl
Carbonyl(cyanotrihydridoborato)bis(triphenylphosphine)rhodium
[36606-39-0]



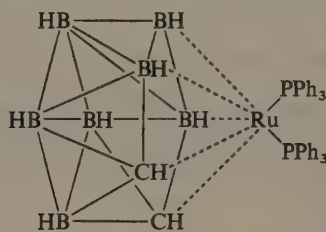
M 695.348
Air-stable yellow solid. Sol. CHCl₃, C₆H₆, insol. hexane, alcohols. *ir* ν_{BH} 2360, ν_{CN} 2192, ν_{CO} 1997 cm⁻¹ (nujol).

Vaska, L. *et al*, *J. Chem. Soc., Chem. Commun.*, 1971, 1615 (*ir, synth*)
Inorg. Synth., 1974, **15**, 72 (*synth, ir*)
Brady, R. *et al*, *Inorg. Chem.*, 1976, **15**, 1485 (*uv*)

C₃₈H₃₉B₇P₂Ru

B-01367

[(4,5,6,7,8,9-η)-Nonahydro-6,8-dicarbanonaborato(4-)]bis-(triphenylphosphine)ruthenium, 10Cl
Hyper-closo-6,6-Bis(triphenylphosphine)-6-ruthenonahydro-2,3-dicarbanonaborane
[61081-79-6]

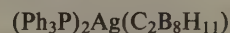


M 734.414
Catalyst for homogeneous hydrogenation of alkenes.
Shiny black needles (CH₂Cl₂/EtOH). Mp 209-12°.
Jung, C.W. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 811 (*synth, pmr, nmr*)

C₃₈H₄₁AgB₈P₂

B-01368

Bis(triphenylphosphine)[(7,8,9-η)undecahydro-5,6-dicarbadeborato(1-)]silver
[74354-45-3]

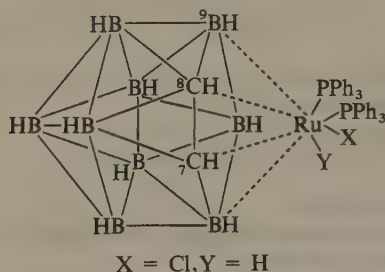


M 754.037
Struct. not known, probably monomeric. Cryst. (CHCl₃/hexane). Loses PPh₃ on recryst., giving Triphenylphosphine[(7,8,9-η)undecahydro-5,6-dicarbadeborato(1-)]silver, B-01140.

Colquhoun, H.M. *et al*, *J. Chem. Soc., Chem. Commun.*, 1980, 192 (synth, nmr)

Marder, T.B. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 2988 (pmr, nmr)

C₃₈H₄₂B₉ClP₂Ru **B-01369**
Chlorohydrobis(triphenylphosphine)[(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium
[67328-91-0]



M 794.510
Orange-red cryst.

Wong, E.H.S. *et al*, *Inorg. Chem.*, 1978, **17**, 2863 (synth, ir)

C₃₈H₄₂B₉ClP₂Ru **B-01370**
Chlorohydrobis(triphenylphosphine)[(7,8,9,10,11-η)undecahydro-7,9-dicarbaundecaborato(2-)]ruthenium
[67350-80-5]
M 794.510
Yellow cryst. Spar. sol. org. solvs.
Wong, E.H.S. *et al*, *Inorg. Chem.*, 1978, **17**, 2863 (synth, ir)

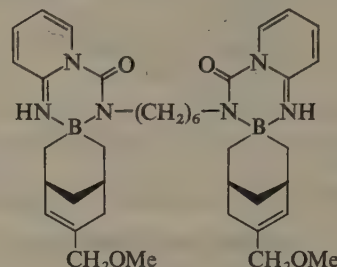
C₃₈H₄₃B₉P₂Ru **B-01371**
Dihydrobis(triphenylphosphine)[(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium
[60172-21-6]
As Chlorohydrobis(triphenylphosphine)[(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, B-01369 with
X = Y = H

M 760.065
Colourless cryst.

Wong, E.H.S. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 257;
Inorg. Chem., 1978, **17**, 2863 (synth, pmr, nmr, ir)

C₃₈H₄₃B₉P₂Ru **B-01372**
Dihydrobis(triphenylphosphine)[(7,8,9,10,11-η)undecahydro-7,9-dicarbaundecaborato(2-)]ruthenium, 9Cl
[2,2-Bis(triphenylphosphine)-2,2-dihydro-2-ruthena]-undecahydro-1,7-dicarbaundecaborane
[60172-17-0]
M 760.065
Stereochemically nonrigid. Light-blue cryst. (dioxan or toluene/EtOH), grey-white when pure. Reversibly forms a dark-blue dehydro complex on heating.
Wong, E.H.S. *et al*, *J. Chem. Soc., Chem. Commun.*, 1976, 257;
Inorg. Chem., 1978, **17**, 2863 (synth, struct, pmr, nmr, ir)

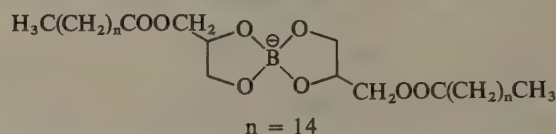
C₃₈H₅₄B₂N₆O₄ **B-01373**
(N,N'-Hexamethylenyl-1,6)-di[7-methoxymethyl-3-borabicyclo[3.3.1]non-6-en-3-yl-(N-carbamoylpyridon-2-iminate)]
[μ-[[N,N'-1,6-Hexanediylbis[2-imino-1(2H)-pyridine-carboxamidato]](2-)]bis[[5-(methoxymethyl)-4-cyclohexene-1,3-diyl]bis(methylene)]diboron, 10Cl
[76009-48-8]



M 680.502
Mp 146-9°.

Buyanovskaya, A.G. *et al*, *Zh. Anal. Khim.*, 1980, **35**, 2106.
Mikhailov, B.M. *et al*, *Izv. Akad. Nauk SSSR, Ser. Khim.*, 1980, 1881; *Bull. Acad. Sci. USSR, Div. Chem. Sci.*, 1355 (synth, ir, pmr)

C₃₈H₇₂BO₈[⊖] **B-01374**
Bis[2,3-dihydroxypropyl hexadecanoato(2-)]borate(1-), 10Cl



M 667.792 (ion)
H deriv.: [65074-58-0]. Hydrogen bis[2,3-dihydroxypropyl hexadecanoato(2-)]borate(1-), 10Cl.
C₃₈H₇₃BO₈ M 668.800
Coupling agent, surfactant.

Japan Pat., 77 89 150, (1977); CA, **88**, 38553n (use)
Japan. Pat., 78 39 413, (1978); CA, **90**, 123486d (use)

C₃₉H₄₁B₉OP₂Ru **B-01375**
Carbonylbis(triphenylphosphine)[(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, 9Cl
[56465-05-5]

As Chlorohydrobis(triphenylphosphine)[(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, B-01369 with

XY = CO

M 786.060
Yellow cryst. (EtOH/CH₂Cl₂).

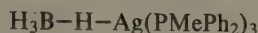
Wong, E.H.J. *et al*, *Inorg. Chem.*, 1978, **17**, 2863 (synth, ir)

C₃₉H₄₁B₉OP₂Ru **B-01376**
Carbonylbis(triphenylphosphine)[(7,8,9,10,11-η)undecahydro-7,9-dicarbaundecaborato(2-)]ruthenium, 9Cl
[60172-19-2]

M 786.060

Yellow cryst. (CH₂Cl₂/EtOH).Wong, E.H.S. *et al*, *Inorg. Chem.*, 1978, **17**, 2863 (*synth*, *ir*)**C₃₉H₄₃AgBP****B-01377****Tris(methyldiphenylphosphine)[tetrahydroborato(1-)-H]silver**

[72347-03-6]



M 661.420

Cryst. (CH₂Cl₂/pentane). Sol. CH₂Cl₂, CHCl₃. Mp 90-3° dec.Bommer, J.C. *et al*, *Inorg. Chem.*, 1980, **19**, 587 (*synth*)**C₃₉H₄₃BCuP****B-01378****Tris(methyldiphenylphosphine)[tetrahydroborato(1-)-H]-copper**

[63371-86-8]



M 617.098

An example of monodentate BH₄[−] ligand. Cryst. (CH₂Cl₂/pentane). Sol. CH₂Cl₂, CHCl₃. Mp 119-21° dec.Bommer, J.C. *et al*, *Inorg. Chem.*, 1980, **19**, 587 (*synth*)Takusagawa, F. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 5165 (*cryst struct*, *neutron struct*)**C₃₉H₅₄BN****B-01379****Dodecyltrimethylammonium tetraphenylborate**

N,N,N-Trimethyl-1-dodecanaminium tetraphenylborate(1-), 10Cl, 9Cl

[40638-32-2]



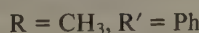
M 547.672

Used to set up an impedance of the interface between two immiscible electrolytic solns.

Seta, P. *et al*, *C.R. Hebd. Seances Acad. Sci.*, 1972, **275**, 1231 (*use*, *props*)Schuhmann, D. *et al*, *J. Colloid Interface Sci.*, 1979, **69**, 448 (*use*, *props*)Schuhmann, D. *et al*, *Physicochem. Hydrodyn.*, 1980, **1**, 57; *CA*, **92**, 205953j (*use*, *props*)**C₄₀H₃₆B₂N₂S₂****B-01380****Tetraphenylbis[μ-(N-phenylethanethioamidato-N:S)]diboron, 10Cl**

[63835-77-8]

As Tetramethylbis[N-(N-phenylethanethioamidato-N:S)]diboron, B-01147 with

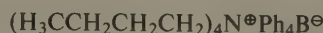


M 630.478

Solid. Sol. CH₂Cl₂. Mp 100°. Bp_{0.001} 150° subl.Maringgele, W. *et al*, *J. Organomet. Chem.*, 1977, **141**, 241 (*synth*, *nmr*, *ms*)Maringgele, W. *et al*, *Monatsh. Chem.*, 1977, **108**, 751.**C₄₀H₅₆BN****B-01381****Tetrabutylammonium tetraphenylborate, 8Cl**

N,N,N-Tributyl-1-butanaminium tetraphenylborate(1-), 10Cl, 9Cl

[15522-59-5]

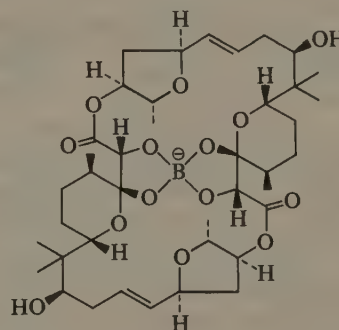


M 561.699

Electrolyte, used as cond. std. for sp. resistance measurements.

Artamonov, B.P. *et al*, *Zh. Prikl. Khim.*, 1974, **47**, 588 (*synth*, *purifn*)Odom, J.D. *et al*, *Org. Magn. Reson.*, 1974, **6**, 360.Selig, W., *Mikrochim. Acta*, 1980, **2**, 133 (*synth*)Zozulin, A.J. *et al*, *J. Magn. Reson.*, 1980, **41**, 458 (*nmr*)Popovych, O., *Solubility Data Ser.*, 1981, **18**, 98, 99, 100, 101.**C₄₀H₆₀BO₁₄****B-01382****Aplasmomycin**

[61230-25-9]



M 775.716 (ion)

Isol. from *Streptomyces griseus*. Shows antibiotic activity against gram-positive organisms. Belongs to small group of boron-containing antibiotics. Closely related structurally to Boromycin.

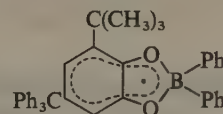
▷CD8835000.

Na salt:

C₄₀H₆₀BNaO₁₄ M 798.705Needles (MeOH aq.). Mp 283-5° dec. [α]_D²² +225° (c, 1.24 in CHCl₃).Okami, Y. *et al*, *J. Antibiot.*, 1976, **29**, 1019 (*isol*, *ir*, *uv*, *ms*, *pmr*, *cmr*, *struct*)Nakamura, H. *et al*, *J. Antibiot.*, 1977, **30**, 714 (*struct*)Corey, E.J. *et al*, *J. Am. Chem. Soc.*, 1982, **104**, 6816, 6818 (*synth*)**C₄₁H₃₆BO₂****B-01383****3-tert-Butyl-5-triphenylmethyl-1,2-benzenediolodiphenylboron**

[3-(1,1-Dimethylethyl)-5-(triphenylmethyl)-1,2-benzenediolato(2-)-O,O']diphenylboron, 10Cl

[73774-36-4]

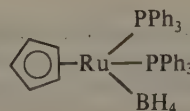


M 571.544

A stable paramagnetic species.

Stegmann, H.B. *et al*, *Tetrahedron Lett.*, 1979, 3689 (*synth*, *esr*)**C₄₁H₃₉BP₂Ru****B-01384****(η⁵-2,4-Cyclopentadien-1-yl)[tetrahydroborato(1-)-H]bis-(triphenylphosphine)ruthenium, 10Cl**

[79408-42-7]



M 705.587

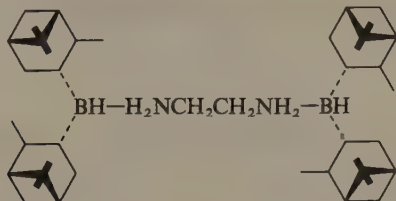
Ash-grey or white cryst. (Et₂O). Mp 95-103° dec., 145-50°.Blackmore, T. *et al*, *J. Chem. Soc. (A)*, 1971, 2376 (*synth*, *ir*, *pmr*)Wilczewski, T. *et al*, *J. Organomet. Chem.*, 1981, **215**, 87 (*synth*, *pmr*, *ms*)C₄₂H₇₈B₂N₂

B-01385

Ethylenediamine bis(diisopinocampheylborane)

[μ-(1,2-Ethylenediamine-N:N')]dihydrotetrakis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)diboron, 10Cl. 1,2-Ethylenediamine, compd. with bis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)borane(1:2)

[68366-09-6]



M 632.712

Liq., stable for at least 30 days at 0° in THF.

Brown, H.C. *et al*, *Inorg. Chem.*, 1979, **18**, 53 (*synth*, *nmr*)C₄₂H₈₀BO₈[⊖]

B-01386

Bis[2,3-dihydroxypropyl octadecanoato(2-)]borate(1-), 10Cl

As Bis[2,3-dihydroxypropyl hexadecanoato(2-)]borate(1-), B-01374 with

n = 16

M 723.899 (ion)

H deriv.: [52660-30-7]. Hydrogen bis[2,3-dihydroxypropyl octadecanoato(2-)]borate(1-), 10Cl.

C₄₂H₈₁BO₈ M 724.907

Surfactant.

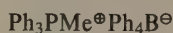
Japan. Pat., 78 39 413, (1978); CA, **90**, 123486d (*use*)Japan. Pat., 78 90 361, (1978); CA, **89**, 216341x (*use*)Japan. Pat., 80 15 480, (1980); CA, **93**, 238852z (*synth*, *use*)C₄₃H₃₈BP

B-01387

Methyltriphenylphosphonium tetraphenylborate(1-), 10Cl,

9Cl, 8Cl

[15318-09-9]



M 596.557

Used as flame retardant for polycarbonates. Cryst. Mp 197°.

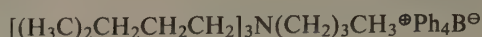
Naldini, L., *Gazz. Chim. Ital.*, 1960, **90**, 1231 (*synth*, *props*)Wittig, G. *et al*, *Tetrahedron*, 1962, **18**, 1023 (*synth*)Rundel, W. *et al*, *Justus Liebigs Ann. Chem.*, 1965, **686**, 88 (*synth*)Schiemenz, G.P., *J. Organomet. Chem.*, 1973, **52**, 349 (*nmr*)Nesterov, L.V. *et al*, *Zh. Obshch. Khim.*, 1980, **50**, 39; CA, **92**, 214490h.U.S.P., 4 269 762, (1981); CA, **95**, 44242w (*use*)C₄₃H₆₂BN

B-01388

Butyltris(3-methylbutyl)ammonium tetraphenylborate

N-Butyl-3-methyl-N,N-bis(3-methylbutyl)-1-butanaminium tetraphenylborate(1-), 10Cl, 9Cl. Butyltriisopentylammonium tetraphenylborate(1-), 8Cl

[16742-92-0]



M 603.780

Has elec. cond. props.

Rosenfarb, J. *et al*, *J. Solution Chem.*, 1976, **5**, 311, 345 (*use*)Bicknell, R.T.M. *et al*, *J. Chem. Soc., Faraday Trans. 1*, 1980, **76**, 637 (*props*)Popovych, O., *Solubility Data Ser.*, 1981, **18**, 84 (*props*)C₄₄H₆₄BN

B-01389

Tetrakis(3-methylbutyl)ammonium tetraphenylborate

3-Methyl-N,N,N-tris(3-methylbutyl)-1-butanaminium tetraphenylborate(1-), 10Cl, 9Cl. Tetraisopentylammonium tetraphenylborate, 8Cl

[25397-16-4]



M 617.806

Electrolyte.

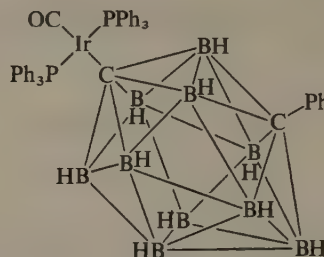
Denat, A. *et al*, *J. Chim. Phys. Physicochim. Biol.*, 1973, **70**, 319; CA, **78**, 158546c (*props*)Carman, P.C., *J. Solution Chem.*, 1978, **7**, 845 (*props*)Sakamoto, I. *et al*, *Electrochim. Acta*, 1981, **26**, 197 (*props*)C₄₅H₄₅B₁₀IrOP₂

B-01390

Carbonyl(7-phenyl-1,7-dicarbadodecaboran(12-1-yl))bis(triphenylphosphine)iridium, 9Cl

Carbonylbis(triphenylphosphine)[7-phenyl-1,7-dicarbadodecaborane(12)]iridium

[57527-11-4]



M 964.117

Orange cryst. (C₆H₆/hexane), solid and soln. stable under inert atm. Sol. C₆H₆, CH₂Cl₂. Mp 132-3° dec. *ir* ν_{CO} 1970 cm⁻¹ (nujol). Readily takes up molecular hydrogen but is not an active hydrogenation catalyst.Longato, B. *et al*, *Inorg. Chem.*, 1976, **15**, 650 (*synth*, *ir*)

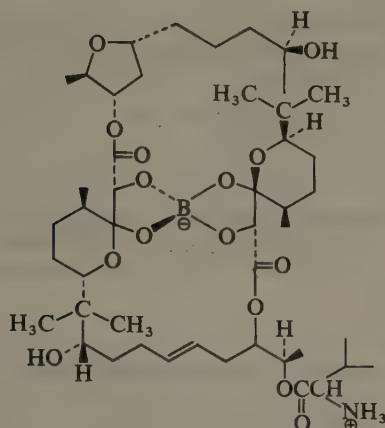
Suggestions for new Entries are welcomed. Please write to the Editor, Dictionary of Organometallic Compounds, Chapman and Hall Ltd, 11 New Fetter Lane, London EC4P 4EE

C₄₅H₇₄BNO₁₅

Boromycin

[34524-20-4]

B-01391



M 879.887

Produced by *Streptomyces antibioticus*. Antibiotic active against gram-positive bacteria. Cryst. (MeOH). Mp 223–8° dec. [α]_D +63.5° (c, 0.55 in CHCl₃). First known natural product containing boron. No UV absorption between 210 and 400 nm.

►ED7325000.

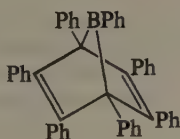
Desvalyl: [70658-70-7]. O²⁷-De(2-amino-3-methyl-1-oxobutyl)boromycin, 10Cl. *Desvalylboromycin*. *Desvalinoboromycin*.

C₄₀H₆₄BO₁₄[−] M 779.747 (ion)Prod. by *S. spp.*Hutler, R. *et al*, *Helv. Chim. Acta*, 1967, **50**, 1533 (*isol, struct*)Dunitz, J.D. *et al*, *Helv. Chim. Acta*, 1971, **54**, 1709 (*struct*)Pache, W., *Antibiotics*, (Corcoran, J.W. *et al*, Ed.), 1975, Springer, N.Y., Vol. 3, 585 (*rev*)Prelog, V., *Front. Bioorg. Chem. Mol. Biol.*, (Ovchinnikov, Y.A. *et al*, Ed.), 1979, Elsevier, Amsterdam, 87 (*rev*)Chen, T.S.S. *et al*, *J. Org. Chem.*, 1981, **46**, 2661 (*synth*)Tyler, P.C. *et al*, *J. Am. Chem. Soc.*, 1981, **103**, 6243 (*synth*)C₄₈H₃₅B

B-01392

1,2,3,4,5,6,7-Heptaphenyl-7-borabicyclo[2.2.1]hepta-2,5-diene, 10Cl, 9Cl

[56859-33-7]



M 622.615

Air-sensitive cryst. (Et₂O). Sol. CCl₄. Mp 210° dec. $\lambda_{\max}$ 318 nm (ϵ 10 000) (Et₂O). Undergoes a thermal [1,3]-suprafacial sigmatropic rearrangement and disrotatory ring-opening to yield a borepin.

Eisch, J.J. *et al*, *J. Am. Chem. Soc.*, 1975, **97**, 4436 (*synth*)Eisch, J.J. *et al*, *J. Organomet. Chem.*, 1977, **127**, C9 (*synth*)C₄₈H₄₀AsB

B-01393

Tetraphenylarsonium(1+) tetraphenylborate(1−), 10Cl, 9Cl, 8Cl

[15627-12-0]



M 702.576

Used in catalysts for cross-linking of epoxy resins, and in photoduplication compositions. Inhibits phosphorylation in

mitochondria. Used for estimation of solvent activity coefficients. Needle-like cryst. (MeCN). Spar. sol. most solvs. Mp 293–5°.

Wittig, G. *et al*, *Justus Liebigs Ann. Chem.*, 1952, **577**, 26 (*synth, props*)Popov, A.I. *et al*, *J. Am. Chem. Soc.*, 1953, **81**, 2043 (*synth, props*)Cox, B.G. *et al*, *Aust. J. Chem.*, 1974, **27**, 477 (*use*)Abraham, M.H. *et al*, *J. Chem. Soc., Faraday Trans. 1*, 1976, **72**, 955 (*use*)Phelps, D.C. *et al*, *Biochem. Biophys. Res. Commun.*, 1977, **79**, 1242 (*pharmacol*)Popovych, O., *Solubility Data Ser.*, 1981, **18**, 182 *et seq.*; *CA*, **94**, 198420u *et seq.*C₄₈H₄₀BP

B-01394

Tetraphenylphosphonium tetraphenylborate(1−), 10Cl, 9Cl, 8Cl
[15525-15-2]



M 658.628

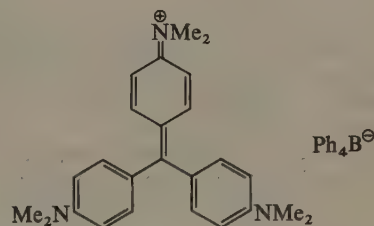
Catalyst for crosslinking of epoxy resins and for thermoplastic hardening. Cryst. (DMF).

Hiroyuki, N., *CA*, 1962, **56**, 26g.*Japan. Pat.*, 74 26 263, (1974); *CA*, **81**, 136294d (*purifn, use*)*U.S.P.*, 3 947 395, (1976); *CA*, **85**, 48414v (*use*)Popovych, O., *Solubility Data Ser.*, 1981, **18**, 228, 229, 231 (*props*)C₄₉H₅₀BN₃

B-01395

Tris[(4-dimethylamino)phenyl]methylum tetraphenylborate N-[4-[Bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-N-methylmethanaminium tetraphenylborate(1−), 10Cl, 9Cl

[41687-02-9]



M 691.764

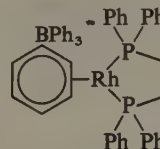
Used as an electrolyte.

Banateanu, Gh., *CA*, 1973, **79**, 93425m (*ir*)Selig, W., *Mikrochim. Acta*, 1980, **2**, 133 (*synth*)Vanysek, P., *J. Electroanal. Chem. Interfacial Electrochem.*, 1981, **121**, 149; *CA*, **94**, 216550t.C₅₀H₄₄BP₂Rh

B-01396

[1,2-Ethanedilylbis(diphenylphosphine)-P,P'][(η^6 -phenyl)tri-phenylborato(1−)]rhodium, 10Cl
[1,2-Bis(diphenylphosphino)ethane][(η^6 -phenyl)tri-phenylborato(1−)]rhodium

[72332-27-5]



M 820.561

Effective catalyst for methylacetylene oligomerisation and allene polymerisation. Orange, air-stable cryst. Mp 230° dec. Forms CH₂Cl₂ solvate. Adds CO₂ reversibly.

Albano, P. *et al*, *Inorg. Chem.*, 1980, **19**, 1069 (*synth, cryst struct*)

Albano, P. *et al*, *J. Organomet. Chem.*, 1980, **190**, 243 (*use*)

C₅₄H₁₁₁BO₃

B-01397

Trioctadecyloxyborane

Boric acid (H₃BO₃) trioctadecyl ester, 10Cl, 9Cl, 8Cl. Octadecyl borate. Trioctadecyl borate. Trioctadecyl orthoborate. Tris(octadecyloxy)borane

[5337-41-7]



M 819.279

Plasticizer, stabilizing agent, vulcanizing agent for polymeric materials. Solid, slowly hydrolysed by moisture. Sol. non-hydroxylic solvs. Mp 41-4°. Bp_{0.3} 339-43°.

▷ED5620000.

Steinberg, H. *et al*, *Ind. Eng. Chem.*, 1957, **49**, 174 (*synth*)

Japan. Pat., 76 107 348, (1976); *CA*, **86**, 18473s (*use*)

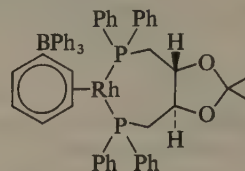
U.S.P., 4 211 679, (1980); *CA*, **93**, 169189z (*use*)

C₅₅H₅₂BO₂P₂Rh

B-01398

[(2,2-Dimethyl-1,3-dioxolane-4,5-diyl)bis(methylene)]bis(diphenylphosphine)-P,P'[(η⁶-phenyl)triphenylborato(1-)]-rhodium, 10Cl

[4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyldioxolan]rhodium η⁶-tetraphenylborate. DIOP(η⁶-Tetraphenylborato)rhodium



(R,R)-form

M 920.678

(R,R)-form [79790-95-7]

Catalyst precursor for asymmetric hydrogenations.

Yellow solid, stable in air for several hours. Sol.

CH₂Cl₂. Mp 129-30°. Forms solvates with alcohols.

Dang, T.P. *et al*, *J. Organomet. Chem.*, 1975, **91**, 105 (*synth, use*)

Chauvin, Y. *et al*, *J. Organomet. Chem.*, 1978, **146**, 311 (*synth*)

Brown, J.M. *et al*, *J. Organomet. Chem.*, 1981, **216**, 263 (*synth, nmr*)

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Bis(η^4 -4,5-diethyl-1,2,2,3-tetramethyl-1,2,5-azasilaboroline)iron, *see* B -01161
Bis[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-*B*]nickel, *in* B -00848
Bis[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-*B*]palladium, *in* B -00848
Bis[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-*B*]platinum, *in* B -00848
Bis[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]nickel, *in* B -00764
Bis[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]palladium, *in* B -00764
Bis[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]platinum, *in* B -00764
Bis[2,3-dihydroxypropyl hexadecanoato(2-)]borate(1-), B -01374
Bis[2,3-dihydroxypropyl octadecanoato(2-)]borate(1-), B -01386
Bis(diisopropylamino)(dimethylamino)borane, *see* B -00940
▷ Bis(dimethylamine)borane, B -00280
▷ Bis(dimethylamino)borine, *see* B -00280
Bisdimethylaminoboron chloride, *see* B -00264
Bisdimethylaminoboron fluoride, *see* B -00266
Bisdimethylaminochloroborine, *see* B -00264
Bis(dimethylamino)fluoroborane, B -00266
Bis(dimethylamino)methoxyborane, B -00346
Bis(dimethylamino)methylborane, B -00345
Bis(dimethylamino)(1-methyl-2-propenyl)borane, B -00568
Bis(dimethylamino)(1,2,3,4,5-pentamethyl-2,4-cyclopentadienyl)borane, B -00924
Bis(dimethylamino)phenylborane, B -00675
N-[4-[Bis[4-(dimethylamino)phenyl]methylene]-2,5-cyclohexadien-1-ylidene]-*N*-methylmethanaminium tetraphenylborate(1-), *see* B -01395
Bis(dimethylamino)-1-pyrrolylborane, B -00548
Bis(dimethylboryl)amine, B -00281
N,N-Bis(dimethylboryl)-1,1-dimethylboranamine, *see* B -00448
N,N-Bis(dimethylboryl)methylamine, B -00347
Bis(2,3-dimethyl-2-butyl)borane, *see* B -00811
Bis[μ -[3,5-dimethylcyclohexanemethanolato(3-)]diboron, *in* B -00601
Bis(2,3-dimethyl-2,3-dicarbaheptaboranyl)iron dihydride, *see* B -00584
Bis[4-(1,1-dimethylethyl)-1,2-benzenediolato(2-)-*O*,*O'*]borate(1-), *see* B -01139
Bis[(1,2,3,4,5,6- η)-1-(1,1-dimethylethyl)boratabenzene]iron, *see* B -01079
1,1-Bis(1,1-dimethylethyl)-*N,N*-dimethylboranamine, *see* B -00720

- ▷ [Bis(dimethylglyoximate(2-))tetrafluorodiborato]-methyl(pyridine)cobalt, *see* B -00900
- Bis(*N,N*-dimethylmethanamine)dihydroboron(1+), *see* B -00456
- Bis(1,2-dimethylpropyl)borane, *see* B -00709
- Bis(1,2-dimethylpropyl)-1-hexenylborane, B -01019
- Bis(1,2-dimethylpropyl)-1-octenylborane, B -01104
- Bis(1,2-dimethylpropyl)octylborane, B -01105
- Bis(1,2-dimethylpropyl)(2-phenylethenyl)borane, B -01080
- Bis(3,5-dimethyl-1*H*-pyrazolato-*N'*)dihydroborate(1-), B -00672
- Bis[μ-(3,5-dimethyl-1*H*-pyrazolato-*N*¹:*N*²)]tetrahydridoboron, *see* B -00684
- Bis[(3,5-dimethyl-1-pyrazolyl)borane], B -00684
- [Bis(1,3,2-dioxaborolan-2-yl)methyl]lithium, B -00326
- Bis(diphenylboron)oxide, *see* B -01241
- Bis(diphenylboryl)methylamine, B -01266
- [1,2-Bis(diphenylphosphino)ethane][(η⁶-phenyl)-triphenylborato(1-)]rhodium, *see* B -01396
- [4,5-Bis(diphenylphosphinomethyl)-2,2-dimethyldioxolan]-rhodium η⁶-tetraphenylborate, *see* B -01398
- Bis(dipropylboron)oxide, *see* B -00835
- Bis(disiamylborane) ethylenediamine, B -01215
- Bis[(7,8,9,10,11,12-η)-dodecahydro-7,9-dicarbadodecaborato(2-)]ferrate(2-), B -00304
- Bis(ethene)[hydrotris(1*H*-pyrazolato-*N*)borato(1-)-*N*²,*N*^{2'}]rhodium, B -00850
- Bis(η²-ethene)(η⁶-tetraphenylborato)rhodium, *see* B -01302
- Bis[(ethylamino)carbonyl]tetrahydro[μ-(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N:N'*)]diboron, *see* B -00840
- Bis(ethylene)[tetraphenylborato(1-)]rhodium, B -01302
- Bis(ethylene)[tris(pyrazolyl)borato]rhodium, *see* B -00850
- Bis(ethylthio)phenylborane, B -00666
- Bisethylthio phenylboronate, *see* B -00666
- Bisglycerol borate, *see* B -00410
- Bis[2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-), B -00883
- [3-[Bis(2-hydroxyethyl)amino]-1-propanolato(3-)]boron, *see* B -00493
- [3-[Bis(2-hydroxyethyl)amino]-1-propanolato(3-)-*N,O,O',O''*]-boron, B -00493
- Bis[3-mercapto-1,2-propanediolato(2-)-*O,O'*]borate(1-), B -00399
- Bis(methanethio)methylborine, *see* B -00183
- Bis(methylamino)phenylborane, B -00538
- Bis(methylamino)phenylborine, *see* B -00538
- Bis[(1,2,3,4,5,6-η)-1-methylboratabenzene]cobalt, *see* B -00768
- Bis[(1,2,3,4,5,6-η)-1-methylboratabenzene]iron, B -00769
- Bis[(1,2,3,4,5,6-η)-1-methylboratabenzene]ruthenium, B -00770
- Bis(1-methylborinato)cobalt, B -00768
- Bis(1-methylborinato)iron, *see* B -00769
- Bis(1-methylborinato)ruthenium, *see* B -00770
- Bis(3-methyl-2-butyl)borane, B -00709
- Bis(3-methyl-2-butyl)-1-hexenylborane, *see* B -01019
- Bis(3-methyl-2-butyl)-1-octenylborane, *see* B -01104
- Bis(3-methyl-2-butyl)octylborane, *see* B -01105
- Bis(3-methyl-2-butyl)(2-phenylethenyl)borane, *see* B -01080
- Bis(2-methylcyclohexyl)(2-phenylethenyl)borane, B -01203
- Bis(2-methylcyclohexyl)propylborane, B -01047
- Bis(2-methylcyclopentyl)borane) tetramethylethylenediamine, B -01111
- [μ-[[Bis(1-methylethyl)amino]carbonyl-*C:O*]]-μ-hydroxytetraphenyldiboron, *see* B -01334
- [*N,N'*-Bis(1-methylethyl)benzenecarboximidamido-*N,N'*]dibutylboron, *see* B -01183
- Bis(4-methylphenyl)borinic acid, *see* B -00889
- Bis(1-methylpropyl)borinic acid methyl ester, *see* B -00625
- Bis(2-methylpropyl)borinic acid methyl ester, *see* B -00626
- Bis(methylthio)phenylborane, B -00532
- Bis(methylthio)propylborane, B -00340
- Bis(monoisopinocampheylborane) tetramethylethylenediamine, B -01286
- Bis[μ-[η⁶-nonahydrodicarbanonaborato(2-)-*B,H*]]-tetrakis(triethylphosphine)diruthenium, *in* B -00941
- Bis[(7,8,9,10,11-η)-1,2,3,4,5,6,9,10,11-nonahydro-7,8-dimethyl-7,8-dicarbaundecaborato(2-)]ferrate(1-), B -00586
- Bis(octadecyl) borate, *see* B -01358
- Bis(octadecyloxy)hydroxyborane, B -01358
- Bis[(2,3,4,6-η)-pentahydro-4,5-dimethyl-4,5-dicarbaundecaborato(1-)-*H''*]iron, B -00584
- Bis(1,4,7,10,13-pentaoxatetradecyl)(1,4,7-trioxaundecyl)borane, B -01287
- Bis(1-phenylborabenzene)cobalt, *see* B -01189
- Bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]cobalt, B -01189
- Bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]iron, B -01190
- Bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]osmium, B -01191
- Bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]ruthenium, B -01192
- Bis(1-phenylborinato)iron, *see* B -01190
- Bis(1-phenylborinato)osmium, *see* B -01191
- Bis(1-phenylborinato)ruthenium, *see* B -01192
- Bis(phosphorous acid)[tetraphenylborato(1-)]rhodium, hexamethyl ester, *see* B -01326
- Bis[pyrocatecholato(2-)]borate(1-), *see* B -00757
- Bis(salicylato)borate, *see* B -00883
- Bis[3,4,5,6-tetrabromo-1,2-benzenediolato(2-)-*O,O'*]borate(1-), B -00754
- Bis[3,3',5,5'-tetrabromo[1,1'-biphenyl]-2,2'-diolato(2-)-*O,O'*]borate(1-), B -01227
- Bis(1,4,7,10-tetraoxaundecyl)(1,4,7,10-tetraoxatetradecyl)borane, B -01261
- Bis(thexylborane)tetramethylethylenediamine, *in* B -00420
- Bis(tricyclohexylphosphine)hydridonickel borohydride, *see* B -01356
- Bis(tricyclohexylphosphine)hydridopalladium tetrahydroborate, *see* B -01357
- Bis(trifluoroacetoxy)borane, B -00215
- Bis(trifluoroborane) tetramethylethylenediamine, B -00439
- Bis(trihydromethylborato(1-)-*H,H'*)magnesium, *in* B -00068
- Bis(trimethylamine)boronium(1+), *see* B -00456
- Bis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)borane, *see* B -01151
- 1,1-Bis(2,4,6-trimethylphenyl)boranamine, *see* B -01076
- Bis(2,4,6-trimethylphenyl)borinic acid, *see* B -01075
- Bis(2,4,6-trimethylphenyl)borinic acid 4-chlorophenyl ester, *see* B -01245
- Bis(2,4,6-trimethylphenyl)borinic acid 4-(1,1-dimethylethyl)phenyl ester, *see* B -01308
- Bis(2,4,6-trimethylphenyl)borinic acid 4-methoxyphenyl ester, *see* B -01269
- Bis(2,4,6-trimethylphenyl)borinic acid methyl ester, *see* B -01126
- Bis(2,4,6-trimethylphenyl)borinic acid 1-methylethyl ester, *see* B -01176
- Bis(2,4,6-trimethylphenyl)borinic acid phenyl ester, *see* B -01246
- Bis(trimethylphosphine)boronium(1+), *see* B -00457
- Bis(1,1,2-trimethylpropyl)borane, B -00811
- Bis(trimethylsilyloxy)phenylborane, B -00795
- 11-Bis[triphenylphosphine-11-argenta-5,6-dicarbaundecaborane(11)], *in* B -01140
- Bis(triphenylphosphine)copper(I) borohydride, *see* B -01353
- [2,2-Bis(triphenylphosphine)-2,2-dihydro-2-ruthena]-undecahydro-1,7-dicarbaundecaborane, *see* B -01372
- Hyper-closo*-6,6-Bis(triphenylphosphine)-6-ruthenanonahydro-2,3-dicarbanonaborane, *see* B -01367
- Bis(triphenylphosphine)[(7,8,9-η)undecahydro-5,6-dicarbadecaborato(1-)]silver, B -01368
- Bis[undecahydro-1,2-dicarbaundecaborato(2-)]aurate(1-), B -00292
- Bis[undecahydro-1,2-dicarbaundecaborato(2-)]aurate(2-), B -00293
- Bis[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(1-), B -00295
- Bis[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(2-), B -00296
- Bis[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-), B -00297
- Bis[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(2-), B -00298
- Bis[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickel, B -00299
- Bis[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(1-), B -00300

- Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(2-), B -00301
- Bis[(7,8,9,10,11- η)-undecahydro-7,9-dicarbaundecaborato(2-)]nickelate(1-), B -00302
- Bis[undecahydro-7,8-dimethyl- π -7,8-dicarbaundecaborato(2-)]-ferrate(1-), *see* B -00586
- 1-Boraadamantane, *see* B -00597
- 2-Boraadamantane, *see* B -00598
- 1-Boraadamantane 1-adamantylamine, *in* B -00597
- 1-Boraadamantane 1-adamantylethylamine, *in* B -00597
- 1-Boraadamantane hexamethylenetetramine, *in* B -00597
- 1-Boraadamantane 2-methylpyridine, *in* B -00597
- 1-Boraadamantane 3-methylpyridine, *in* B -00597
- 1-Boraadamantane octadecanamine, *in* B -00597
- 1-Boraadamantane α -picoline, *in* B -00597
- 1-Boraadamantane β -picoline, *in* B -00597
- 1-Boraadamantane stearylamine, *in* B -00597
- 1-Boraadamantane 1,3,5,7-tetrazaadamantane, *in* B -00597
- 1-Boraadamantane triethylamine, *see* B -00974
- 1-Boraadamantane trimethylamine, *in* B -00597
- Borabenzene, B -00306
- 3-Borabicyclo[3.3.1]nonane, B -00544
- 9-Borabicyclo[3.3.1]nonane, B -00545
- 9-Borabicyclo[3.3.1]nonane *tert*-butylamine, B -00809
- 9-Borabicyclo[3.3.1]nonane, compd. with thiobis[methane](1:1), *see* B -00705
- 9-Borabicyclo[3.3.1]nonane 1,4-diazabicyclo[2.2.2]octane, B -00925
- 9-Borabicyclo[3.3.1]nonane diethylamine, B -00810
- 9-Borabicyclo[3.3.1]nonane 2,6-dimethylpyridine, B -00956
- 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B -00705
- 9-Borabicyclo[3.3.1]nonane 2-ethylpyridine, B -00957
- 9-Borabicyclo[3.3.1]nonane isopropylamine, B -00747
- 9-Borabicyclo[3.3.1]nonane 2-isopropylpyridine, B -01001
- 9-Borabicyclo[3.3.1]nonane 2-methylpyridine, B -00903
- 9-Borabicyclo[3.3.1]nonane 4-methylpyridine, B -00904
- 9-Borabicyclo[3.3.1]nonane propylamine, B -00748
- 9-Borabicyclo[3.3.1]nonane pyridine, B -00853
- 9-Borabicyclo[3.3.1]nonane tetrahydrofuran, *in* B -00545
- 9-Borabicyclo[3.3.1]nonane tetramethylethylenediamine, B -00934
- 9-Borabicyclo[3.3.1]nonane triethylamine, B -00931
- 9-Borabicyclo[3.3.1]nonane trifluoromethanesulfonate, *see* B -00596
- 9-Borabicyclo[3.3.1]nonane trimethylamine, B -00749
- 3-Borabicyclo[3.3.1]non-3-yl acetylacetonate, B -00860
- 2-(9-Borabicyclo[3.3.1]non-9-yloxy)ethanamine, *see* B -00698
- 11-(9-Borabicyclo[3.3.1]non-9-yl)-10-undecenoic acid methyl ester, *see* B -01152
- Boracycloheptane, *see* B -00400
- Boracyclohexane, *see* B -00327
- Boracyclopentane, *see* B -00227
- 3-Borahomoadamantane, *see* B -00673
- Boranamine, *see* B -00009
- Borane, B -00006
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- Boranecarbonitrile, compd. with *N,N*-diethylethanamine(1:1), *see* B -00504
- Boranecarbonitrile, compd. with 3-(dimethylamino)propanenitrile(1:1), *see* B -00398
- Boranecarbonitrile, compd. with *N,N*-dimethylmethanamine(1:1), *see* B -00251
- Boranecarbonitrile, compd. with methanamine(1:1), *see* B -00117
- Boranecarbonitrile, compd. with 4-methylbenzenamine(1:1), *see* B -00527
- Boranecarbonitrile, compd. with 2,2'-(methylimino)-bis[ethanol](1:1), *see* B -00336
- Boranecarbonitrile, compd. with *N*-methylmethanamine(1:1), *see* B -00176
- Boranecarbonitrile, compd. with 4-methylmorpholine(1:1), *see* B -00408
- Boranecarbonitrile, compd. with 2-methylpyridine(1:1), *see* B -00469
- Boranecarbonitrile, compd. with 3-methylpyridine(1:1), *see* B -00470
- Boranecarbonitrile, compd. with 4-methylpyridine(1:1), *see* B -00471
- Boranecarbonitrile, compd. with 4-picoline(1:1), *see* B -00471
- Boranecarbonitrile, compd. with pyridine(1:1), *see* B -00379
- Boranecarbonitrile, compd. with 1,2,3,4-tetrahydroisoquinoline(1:1), *see* B -00654
- Boranecarbonitrile compd. with *N,N,N',N'*-tetramethyl-1,2-ethanediamine(2:1), *see* B -00581
- Boranecarbonitrile, compd. with trimethylamine, *see* B -00251
- Boranecarbonitrile, compd. with trimethylphosphine(1:1), *see* B -00250
- Boranecarbonitrile, compd. with triphenylphosphine(1:1), *see* B -01117
- Boranecarbonitrile monoammoniate, *see* B -00065
- Borane carbonyl, B -00061
- Boranecarboxylic acid, B -00062
- Boranecarboxylic acid compd. with pyridine(1:1), *see* B -00384
- Boranecarboxylic acid compd. with *N,N,N',N'*-tetramethyl-1,2-ethanediamine(2:1), *see* B -00583
- Boranecarboxylic acid ethyl ester compd. with *N,N*-dimethylmethanamine(1:1), *see* B -00438
- Boranecarboxylic acid pyridine, *see* B -00384
- Borane compd. with carbon monoxide(1:1), *see* B -00061
- Borane compd. with hydrazine, *see* B -00013
- Borane compd. with hydrazine(2:1), *see* B -00014
- Borane compd. with 1,4-oxathiane(1:1), *see* B -00254
- Borane compd. with PH_3 , *see* B -00012
- Borane compd. with thiobis[methane](1:1), *see* B -00135
- Boranediamine, *see* B -00011
- Borane diethylamine, B -00283
- Borane dimethylamine, B -00138
- Borane *N,N*-dimethylaniline, B -00541
- Borane *N,N*-dimethyl(2-methoxyethyl)amine, B -00351
- Borane dimethylphosphine, B -00139
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- Borane dimethyl sulfide, B -00135
- Borane ephedrine, B -00682
- Borane 2-ethoxy-*N,N*-dimethylethylamine, B -00445
- Borane hydrazine, B -00013
- Borane isocyanomethane, B -00105
- Borane 2-methoxy-*N,N*-dimethylethylamine, *see* B -00351
- Borane methylamine, B -00071
- Borane 4-methylpyridine, B -00388
- Borane morpholine, B -00268
- Borane 1,4-oxathiane, B -00254
- Borane phosphine, B -00012
- Borane pyridine, B -00323
- Borane tetrahydrofuran, B -00252
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- Borane triethylamine, B -00443
- Borane trimethylamine, B -00203
- Borane trimethylphosphine, B -00208
- Borane trimethyl phosphite, B -00207
- Borane trimethylphosphonium methylide, B -00284
- Borane triphenylamine, B -01069
- Borane triphenylphosphine, B -01071
- Borane tris(dimethylamino)phosphine, B -00458
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- 9-Boratabicyclo[3.3.1]nonane, B -00546
- Boratobis(trimethylphosphonium)(1+), *see* B -00457
- 1-Boratricyclo[3.3.1.1^{3,7}]decane, B -00597
- 2-Boratricyclo[3.3.1.1^{3,7}]decane, B -00598
- 1-Boratricyclo[3.3.1.1^{3,7}]decane compd. with α -methyltricyclo[3.3.1.1^{3,7}]decane-1-methanamine(1:1), *in* B -00597
- 1-Boratricyclo[3.3.1.1^{3,7}]decane triethylamine, B -00974
- 3-Boratricyclo[4.3.1.1^{3,8}]undecane, B -00673
- 10,9-Borazonaphthalene, B -00518
- Borazine, B -00020
- 1,1'',1'''-(2,4,6-Borazinetriyl)trisferrocene, *see* B -01321
- Borazole, *see* B -00020
- Borepane, B -00400
- Boric acid (H_3BO_3) 2-aminoethyl diphenyl ester, *see* B -00893
- Boric acid (H_3BO_3) 2-[2-(2-butoxyethoxy)ethoxy]ethyl bis[2-[2-(2-methoxyethoxy)ethoxy]ethyl]ester, *see* B -01261
- Boric acid (H_3BO_3) 2-(2-butoxyethoxy)ethyl bis(3,6,9,12-tetraoxatridec-1-yl)ester, *see* B -01287
- Boric acid (H_3BO_3) 2-butoxyethyl bis[2-[2-(2-methoxyethoxy)ethoxy]ethyl] ester, *see* B -01159
- Boric acid (H_3BO_3) 2-butoxyethyl bis(3,6,9,12-tetraoxatridec-1-yl) ester, *see* B -01262
- Boric acid (H_3BO_3) compd. with 2,2',2''-nitrilotris[ethanol], *see* B -00446
- Boric acid (H_3BO_3) dibutyl 1-ethenyl-1,5-dimethyl-4-hexenyl ester, *see* B -01100

- Boric acid (H_3BO_3) dioctadecyl ester, *see* B -01358
 Boric acid (H_3BO_3) monomethyl ester, *see* B -00067
 ▶ Boric acid (H_3BO_3) triallyl ester, *see* B -00602
 ▶ Boric acid (H_3BO_3) tribenzyl ester, *see* B -01165
 ▶ Boric acid (H_3BO_3) tributyl ester, *see* B -00820
 ▶ Boric acid (H_3BO_3) tri-*sec*-butyl ester, *see* B -00822
 Boric acid (H_3BO_3) tri-*tert*-butyl ester, *see* B -00821
 Boric acid (H_3BO_3) tricyclohexyl ester, *see* B -01093
 ▶ Boric acid (H_3BO_3) tridodecyl ester, *see* B -01359
 ▶ Boric acid (H_3BO_3) triethyl ester, *see* B -00429
 ▶ Boric acid (H_3BO_3) trihexyl ester, *see* B -01110
 ▶ Boric acid (H_3BO_3) triisobutyl ester, *see* B -00823
 ▶ Boric acid (H_3BO_3) trimethyl ester, *see* B -00180
 Boric acid (H_3BO_3) trinonyl ester, *see* B -01294
 ▶ Boric acid (H_3BO_3) trioctadecyl ester, *see* B -01397
 ▶ Boric acid (H_3BO_3) trioctyl ester, *see* B -01259
 ▶ Boric acid (H_3BO_3) tripentyl ester, *see* B -00979
 ▶ Boric acid (H_3BO_3) triphenyl ester, *see* B -01060
 ▶ Boric acid (H_3BO_3) tri-2-propenyl ester, *see* B -00602
 ▶ Boric acid (H_3BO_3) tripropyl ester, *see* B -00629
 Boric acid (H_3BO_3) tris(decyl) ester, *see* B -01330
 Boric acid (H_3BO_3) tris(1,1-dimethylethyl)ester, *see* B -00821
 ▶ Boric acid (H_3BO_3) tris(2-ethylhexyl) ester, *see* B -01260
 ▶ Boric acid (H_3BO_3) tris(1-methylethyl) ester, *see* B -00628
 Boric acid (H_3BO_3) tris(3-methylphenyl) ester, *see* B -01166
 ▶ Boric acid (H_3BO_3) tris(1-methylpropyl) ester, *see* B -00822
 ▶ Boric acid (H_3BO_3) tris(2-methylpropyl) ester, *see* B -00823
 ▶ Boric acid (H_3BO_3) tris(phenylmethyl) ester, *see* B -01165
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 Boron trifluoride carbonyl, *see* B -00048
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 [[μ_4 -(Boryl-*B:B:H:H'*)]dodecacarbonyl- μ -hydrotetrairon, B -00755
 [μ_4 -(Boryl-*B:B:H:H'*)]dodecacarbonyl- μ -hydrotetraruthenium, B -00756
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 7-(Borylmethyl)-3-MBBN, *see* B -00699
 7-(Borylmethyl)-3-methoxy-3-BBN, *see* B -00699
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B-Bromo-9-BBN, *see* B -00539
 ▶ 4-Bromobenzeneboronic acid, *see* B -00371
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 Bromobis(diethylamino)borane, B -00576
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 9-Bromo-9-borabicyclo[3.3.1]nonane compd. with thiobis[methane](1:1), *see* B -00694
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 Bromoborane compd. with thiobis[methane](1:1), *see* B -00124
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 (1-Bromo-1-hexenyl)diethylborane, B -01103
 (1-Bromo-1-hexenyl)diethylborane, B -01213
 3-Bromo-7-methyl-3-BBN, *see* B -00603
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 (1-Bromo-2-methylbutyl)diethylborane, B -00620
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 ▶ 1-Bromopentaborane(9), B -00024
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 ▶ (4-Bromophenyl)dihydroxyborane, B -00371
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B-Butyl-9-*BBN*, *see* B -00789
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tert-Butyl borate, *see* B -00821
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tert-Butylborohydride, *see* B -00258
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 ▶ Butylboron dichloride, *see* B -00230
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 Butylcyclohexylthexylborane, *see* B -01020
 Butylcyclohexyl(1,1,2-trimethylpropyl)borane, B -01020
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 ▶ Butyldichloroborane, B -00230
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 Butyldifluoroborane, *see* B -00231
 (1-*tert*-Butyl-2,3-dihydro-2-methyl-1*H*-azaborol-3-yl)-dicarbonyl(trimethylsilyl)iron, *see* B -00866
 [(3,4,5- η)-1-*tert*-Butyl-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]iodoirone, B -00664
 Butyldihydroxyborane, B -00255
 Butyldimethoxyborane, B -00426
 Butyl(dimethylamino)fluoroborane, B -00423
 1-Butyl-3,6-dimethylborepane, B -00804
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 Butyldi-2-propenylborane, B -00687
 9-(*tert*-Butylethenyl)-9-*BBN*, *see* B -00915
 Butyl ether compd. with boron fluoride(BF₃)(1:1), *see* B -00565
 9-(*tert*-Butylethynyl)-9-*BBN*, *see* B -00907
 1-Butyl-1-fluoro-*N,N*-dimethylboranamine, *see* B -00423
 (1-Butyl-1-hexenyl)bis(1,2-dimethylpropyl)borane, B -01157
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 3-*tert*-Butyl-7-methyl-3-*BBN*, *see* B -00868
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 3-*tert*-Butyl-7-methyl-3-borabicyclo[3.3.1]nonane, B -00868
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 3-*tert*-Butyl-5-triphenylmethyl-1,2-benzenediolatodiphenylboron, B -01383
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 Carbonylbis(triphenylphosphine)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, B -01375
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 Carbonyl(cyanotrihydridoborato)bis(triphenylphosphine)rhodium, *see* B -01366
 Carbonyl[(cyano-*C*)trihydroborato(1-)-*N*]-bis(triphenylphosphine)rhodium, B -01366
 Carbonyl(η^5 -2,4-cyclopentadien-1-yl)[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]manganese, B -01068
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 Carbonyl[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)]diiodorhodium, B -00648
 Carbonyl(7-phenyl-1,7-dicarbadodecaboran(12)-1-yl)-bis(triphenylphosphine)iridium, B -01390
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o-Carborane, *see* B -00151
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 Chlorobis(dibutylamino)borane, B -01024
 Chlorobis(diethylamino)borane, B -00577
 Chlorobis(diethylamino)borane, *see* B -00577
 Chlorobis(dimethylamino)borane, B -00264
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- 4-Chloro-1-boraadamantane, B -00595
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 9-Chloro-9-borabicyclo[3.3.1]nonane compd. with 1,1'-oxybis[ethane](1:1), *see* B -00800
 9-Chloro-9-borabicyclo[3.3.1]nonane compd. with thiobis[methane](1:1), *see* B -00695
 9-Chloro-9-borabicyclo[3.3.1]nonane diethyl ether, B -00800
 9-Chloro-9-borabicyclo[3.3.1]nonane dimethyl sulfide, B -00695
 9-Chloro-9-borabicyclo[3.3.1]nonane pyridine, B -00851
 Chloroborane compd. with *N,N*-diethylethanamine(1:1), *see* B -00440
 Chloroborane compd. with *N*-methylmethanamine(1:1), *see* B -00133
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 Chloroborane triethylamine, B -00440
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 4-Chloro-1-boratricyclo[3.3.1.1^{3,7}]decane, *see* B -00595
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 [2-Chloro-1,3,5-cyclohexanetriyltris(methylene)](pyridine)boron-, *in* B -00595
 [2-Chloro-1,3,5-cyclohexanetriyltris(methylene)]-(tetrahydrofuran)boron, *in* B -00595
 Chloro-1,5-cyclooctanediyl[1,1'-oxybis[ethane]]boron, *see* B -00800
 Chloro-1,5-cyclooctanediyl(pyridine)boron, *see* B -00851
 Chloro-1,5-cyclooctanediyl[thiobis[methane]]boron, *see* B -00695
 1-Chloro-1-(1-cyclopenten-1-yloxy)-*N,N*-diethylboranamine, *see* B -00606
 Chloro(dibutylamino)phenylborane, B -00909
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 Chloro(diethylamino)phenylborane, B -00662
 Chlorodiethylborane, B -00237
 Chlorodiethylborine, *see* B -00237
 Chloro(*N,N*-diethylethanamine)dihydroboron, *see* B -00440
B-Chloro-9-*BBN*-diethyl ether, *see* B -00800
 1-Chloro-*N,N*-diethyl-1-phenylboranamine, *see* B -00662
 Chlorodi-1-hexenylborane, B -00788
 Chlorodihydro(*N*-methylmethanamine)boron, *see* B -00133
 Chlorodihydro[1,1'-oxybis[ethane]]boron, *see* B -00265
 Chlorodihydro(tetrahydrofuran)boron, *see* B -00238
 Chlorodihydro[thiobis(methane)]boron, *see* B -00125
 Chlorodihydro(trimethylphosphine)boron, *see* B -00198
 Chlorodiisobutylborane, *see* B -00561
 Chlorodiisobutylborine, *see* B -00561
 Chloro(diisopropylamino)phenylborane, B -00772
 Chlorodimethoxyborane, B -00097
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 Chloro(dimethylamino)phenylborane, B -00525
 ▶ Chlorodimethylborane, B -00096
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 Chloro(2,3-dimethyl-2-butyl)octylborane, *see* B -00930
 Chloro(2,3-dimethyl-2-butyl)(2-phenylethenyl)borane, *see* B -00899
 1-Chloro-*N,N*-dimethyl-1-phenylboranamine, *see* B -00525
 2-[(Chlorodimethylsilyl)methyl]pentaborane(9), B -00213
B-Chloro-9-*BBN*-dimethyl sulfide, *see* B -00695
 Chlorodiphenylborane, B -00759
 Chlorodiphenylborine, *see* B -00759
 Chloro(dipropylamino)phenylborane, B -00773
 ▶ Chlorodipropylborane, B -00414
 ▶ Chlorodipropylborine, *see* B -00414
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 Chlorodivinylborine, *see* B -00220
 Chloro(1-ethyl-1-butenyl)(1,1,2-trimethylpropyl)borane, B -00798
 Chloro(1-hexenyl)(2,3-dimethyl-2-butyl)borane, *see* B -00798
 Chloro(3-hexen-3-yl)(2,3-dimethyl-2-butyl)borane, *see* B -00798
 Chloro(1-hexenyl)thexylborane, *see* B -00799
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 Chlorohydrobis(triphenylphosphine)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, B -01369
 Chlorohydrobis(triphenylphosphine)[(7,8,9,10,11- η)-undecahydro-7,9-dicarbaundecaborato(2-)]ruthenium, B -01370
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 [(Chloromercuri)methyl]borinic acid dimethyl ester, *see* B -00164
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 6-Chloro-3-methoxy-7-methylene-3-borabicyclo[3.3.1]nonane, B -00669
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 7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]non-6-ene, B -00670
 7-(Chloromethyl)-3-(2-propenyl)-3-borabicyclo[3.3.1]non-6-ene, B -00771
 Chlorooctylthexylborane, *see* B -00930
 Chlorooctyl(1,1,2-trimethylpropyl)borane, B -00930
 1-Chloropentaborane(9), B -00025
 2-Chloropentaborane(9), B -00026
 2-Chloro-1,3,4,5,6-pentamethylborazine, B -00348
 Chloro[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]boron(1+), B -00661
 1-Chloro-2,3,4,5,6-pentamethyl-2,3,4,5,6-pentacarbahexaborane(6), *see* B -00661
 (5-Chloro-1-pentenyl)bis(1,2-dimethylpropyl)borane, B -00973
 (5-Chloro-1-pentenyl)bis(3-methyl-2-butyl)borane, *see* B -00973
 5-Chloro-1-penten-1-yldibromoborane dimethyl sulfide, *see* B -00492
 (5-Chloro-1-pentenyl)disiamylborane, *see* B -00973
 9-(5-Chloro-1-pentynyl)-9-borabicyclo[3.3.1]nonane, B -00852
 (4-Chlorophenoxy)bis(2,4,6-trimethylphenyl)borane, B -01245
m-Chlorophenylboric acid, *see* B -00372
 (3-Chlorophenyl)boronic acid, *see* B -00372
 ▶ (4-Chlorophenyl)boronic acid, *see* B -00373
 (3-Chlorophenyl)dihydroxyborane, B -00372
 ▶ (4-Chlorophenyl)dihydroxyborane, B -00373
 1-Chloro-1-phenyl-*N,N*-dipropylboranamine, *see* B -00773
 Chloro(2-phenylethenyl)thexylborane, *see* B -00899
 Chloro(2-phenylethenyl)(1,1,2-trimethylpropyl)borane, B -00899
 Chlorostyrylthexylborane, *see* B -00899
 1-Chloro-*N,N,N',N'*-tetraethylboranedi-amine, *see* B -00577
 1-Chloro-*N,N,N',N'*-tetramethylboranedi-amine, *see* B -00264
 Chlorothexylborane, *see* B -00415
 Chloro(1,1,2-trimethylpropyl)borane, B -00415
 CHMB, *see* B -01095
hyper-closo-6,6-Bis(triethylphosphine)-6,2,3-RuC₂B₇H₉, *see* B -00941
m-Cresyl borate, *see* B -01166
B-Crotyl-9-*BBN*, *see* B -00782
 Crotyldiethylborane, *see* B -00549
 Crotyldipropylborane, *see* B -00700
B-Cyano-9-*BBN* hydride, *see* B -00600
 Cyanoborane, B -00050
 Cyanoborane ammonia, B -00065
 Cyanoborane aniline, B -00468
 Cyanoborane diethanolamine, B -00336
 Cyanoborane dimethylamine, B -00176
 Cyanoborane 3-(dimethylamino)propanenitrile, B -00398
 Cyanoborane methylamine, B -00117
 Cyanoborane 4-methylaniline, B -00527
 ▶ Cyanoborane 4-methylmorpholine, B -00408
 Cyanoborane 2-methylpyridine, B -00469
 Cyanoborane 3-methylpyridine, B -00470
 Cyanoborane 4-methylpyridine, B -00471

- Cyanoborane pyridine, B -00379
 Cyanoborane tetrahydroisoquinoline, B -00654
 Cyanoborane *p*-toluidine, *see* B -00527
 Cyanoborane triethylamine, B -00504
 ▶ Cyanoborane trimethylamine, B -00251
 Cyanoborane trimethylphosphine, B -00250
 Cyanoborane trimethyl phosphite, B -00249
 Cyanoborane triphenylphosphine, B -01117
 (Cyano-*C*)(*N,N*-diethylethanamine)dihydroboron, *see* B -00504
 (Cyano-*C*)dihydro(methanamine)boron, *see* B -00117
 (Cyano-*C*)dihydro(4-methylbenzenamine)boron, *see* B -00527
 (Cyano-*C*)dihydro[2,2'-(methylimino)bis[ethanol]-*N*]boron, *see* B -00336
 (Cyano-*C*)dihydro(*N*-methylmethanamine)boron, *see* B -00176
 ▶ (Cyano-*C*)dihydro(4-methylmorpholine-*N*⁴)boron, *see* B -00408
 (Cyano-*C*)dihydro(2-methylpyridine)boron, *see* B -00469
 (Cyano-*C*)dihydro(3-methylpyridine)boron, *see* B -00470
 (Cyano-*C*)dihydro(4-methylpyridine)boron, *see* B -00471
 (Cyano-*C*)dihydro(pyridine)boron, *see* B -00379
 (Cyano-*C*)dihydro(1,2,3,4-tetrahydroisoquinoline)boron, *see* B -00654
 (Cyano-*C*)dihydro(trimethylphosphine)boron, *see* B -00250
 (Cyano-*C*)dihydro(trimethyl phosphite-*P*)boron, *see* B -00249
 (Cyano-*C*)dihydro(triphenylphosphine)boron, *see* B -01117
 (Cyano-*C*)[3-(dimethylamino)propanenitrile-*N*³]dihydroboron, *see* B -00398
 ▶ (Cyano-*C*)(*N,N*-dimethylmethanamine)dihydroboron, *see* B -00251
 9-Cyano-9-hydrido-9-borabicyclo[3.3.1]nonane, *see* B -00600
 9-Cyano-9-hydro-9-boratabicyclo[3.3.1]nonane, B -00600
 (Cyano-*C*)trihydroborate(1-), B -00060
 (Cyano-*C*)triphenylborate(1-), B -01115
 1,5,9-Cyclododecanetriylhydroborate(1-), *see* B -00786
 [1,3-Cyclohexanediylbis(methylene)](2,4-pentanedionato-*O,O'*)boron, *see* B -00860
 1,3,5-Cyclohexanetriyltris[methylene]boron, *see* B -00597
 [1,3,5-Cyclohexanetriyltris(methylene)](*N,N*-diethylethanamine)boron, *see* B -00974
 [1,3,5-Cyclohexanetriyltris[methylene]](ethanamine)boron, *in* B -00597
 9-(1-Cyclohexen-1-yl)-9-borabicyclo[3.3.1]nonane, B -00906
 1-Cyclohexenyl dibutylborinate, *see* B -00926
 [2-(1-Cyclohexen-1-yl)ethenyl]bis(1,2-dimethylpropyl)borane, B -01089
 [2-(1-Cyclohexenyl)ethenyl]bis(3-methyl-2-butyl)borane, *see* B -01089
 [2-(1-Cyclohexenyl)ethenyl]disiamylborane, *see* B -01089
 [*N*-[(Cyclohexylamino)(cyclohexylimino)methyl]-*N'*-(1-methylethyl)benzenecarboximidamido]dipropylboron, B -01317
 [*N*-[(Cyclohexylamino)(cyclohexylimino)methyl]-*N'*-(1-methylethyl)benzenecarboximidamido]bis(2-methylpropyl)-boron, B -01335
B-Cyclohexyl-9-BBN, *see* B -00913
 9-Cyclohexyl-9-borabicyclo[3.3.1]nonane, B -00913
 Cyclohexylborane, B -00401
 Cyclohexylborane triethylamine, B -00832
 Cyclohexyl borate, *see* B -01093
 [*N*-Cyclohexyl-*N*-[(cyclohexylamino)carbonyl]-2-heptenamido-*O,O'*]-1,5-cyclooctanediylboron, B -01309
 Cyclohexyl(*N,N*-diethylethanamine)dihydroboron, *see* B -00832
 Cyclohexyl(2,3-dimethyl-2-butyl)borane, *see* B -00806
 Cyclohexyl(2,3-dimethyl-2-butyl)octylborane, *see* B -01158
 9-(Cyclohexylethynyl)-9-borabicyclo[3.3.1]nonane, B -00999
 Cyclohexyl metaborate trimer, *see* B -01095
 [3-(Cyclohexylmethylamino)propyl]borane, B -00707
 [3-(Cyclohexylmethylamino)propyl]-*C,N*]dihydroboron, *see* B -00707
 Cyclohexyloctylthexylborane, *see* B -01158
 Cyclohexyloctyl(1,1,2-trimethylpropyl)borane, B -01158
 9-[(1-Cyclohexyl-1-propenyl)oxy]-9-borabicyclo[3.3.1]nonane, B -01043
 Cyclohexylthexylborane, *see* B -00806
 Cyclohexyl(1,1,2-trimethylpropyl)borane, B -00806
 [(1,2,5,6- η)-1,5-Cyclooctadiene][hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*²]rhodium, B -01033
 [(1,2,5,6- η)-1,5-Cyclooctadiene][(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]platinum, *in* B -01343
 [(1,2,5,6- η)-1,5-Cyclooctadiene][(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt, B -01121
 [(1,2,5,6- η)-1,5-Cyclooctadiene][(η^6 -phenyl)-triphenylborato(1-)]rhodium, B -01338
 (1,5-Cyclooctadiene)[(tetraphenylborato(1-))]rhodium, *see* B -01338
 [(1,2,3,5,6- η)-2,5-Cyclooctadien-1-yl][(η^6 -phenyl)-triphenylborato(1-)]ruthenium, B -01336
 1,5-Cyclooctanediyl(1,4-diazabicyclo[2.2.2]octane-*N*¹)hydroboron, *see* B -00925
 1,5-Cyclooctanediyl(*N,N*-diethylethanamine)hydroboron, *see* B -00931
 1,5-Cyclooctanediyl[4-(dimethylamino)benzaldehyde-*N*]methylboron, *see* B -01078
 1,5-Cyclooctanediyl(*N,N*-dimethylmethanamine)hydroboron, *see* B -00749
 1,5-Cyclooctanediyl[4,4-dimethyl-*N*-phenyl-*N*-[(phenylamino)-carbonyl]-2-pentenamido-*O,O'*]boron, B -01305
 1,5-Cyclooctanediyl(2,6-dimethylpyridine)hydroboron, *see* B -00956
 1,5-Cyclooctanediyl(2-ethylpyridine)hydroboron, *see* B -00957
 1,5-Cyclooctanediylethynyl(tetrahydrofuran)boron, *in* B -00659
 1,5-Cyclooctanediylhydro(*N*-ethylethanamine)boron, *see* B -00810
 1,5-Cyclooctanediylhydro[2-(1-methylethyl)pyridine]boron, *see* B -01001
 1,5-Cyclooctanediylhydro(2-methyl-2-propanamine)boron, *see* B -00809
 1,5-Cyclooctanediylhydro(2-methylpyridine)boron, *see* B -00903
 1,5-Cyclooctanediylhydro(4-methylpyridine)boron, *see* B -00904
 1,5-Cyclooctanediylhydro(1-propanamine)boron, *see* B -00748
 1,5-Cyclooctanediylhydro(2-propanamine)boron, *see* B -00747
 1,5-Cyclooctanediylhydro(pyridine)boron, *see* B -00853
 1,5-Cyclooctanediylhydro(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N*)boron, *see* B -00934
 1,5-Cyclooctanediylhydro[thiobis[methane]]boron, *see* B -00705
 1,5-Cyclooctanediylhydro(2,6,6-trimethylbicyclo[3.1.1]-hept-3-yl)borate(1-), *in* B -01082
 1,5-Cyclooctanediylhydro[thiobis[methane]]boron, *see* B -00696
 1,5-Cyclooctanediyl[*N*-(1-methylethyl)-2-propanamine]hydroboron, *see* B -00932
 1,5-Cyclooctanediyl[*N*-1-naphthalenyl-*N*-[(1-naphthalenylamino)carbonyl]-2-heptenamido-*O,O'*]boron, B -01354
 1,5-Cyclooctanediyl-1-octynyl(tetrahydrofuran)boron, *in* B -01003
 1,5-Cyclooctanediyl(phenylethynyl)(tetrahydrofuran)boron, *in* B -00989
 1,5-Cyclooctanediyl[*N*-phenyl-*N*-[(phenylamino)carbonyl]-2-heptenamido-*O,O'*]boron, B -01306
 1,5-Cyclooctanediyl(pyridine)[2-(trimethylsilyl)ethyl]boron, *in* B -00876
 [μ -(1,3,5,7-Cyclooctanetetrayl-*C*¹,*C*⁵:*C*³,*C*⁷)]-dihydrobis(tetrahydrofuran)diboron, *in* B -00543
 [(1,2,3,4,5,6- η)-1,3,5-Cyclooctatriene][(2,3,4,5,6- η)-2,3-dimethyl-1,4,5,6-tetrahydro-2,3-dicarbahexaborato(2-)]iron, B -00779
 [(1,2,3,4,5,6- η)-1,3,5-Cyclooctatriene][(1,2,3,4,5- η)-pentahydro-1,2-diethyl-1,2-dicarba-pentaborato(2-)]iron, B -00920
B-Cyclooctyl-9-BBN, *see* B -01005
 9-Cyclooctyl-9-borabicyclo[3.3.1]nonane, B -01005
 1-(η^5 -Cyclopentadienyl)-*FeB*₅*H*₁₀, *see* B -00349
 2-(η^5 -Cyclopentadienyl)-*FeB*₅*H*₁₀, *see* B -00350
 2-(η^5 -Cyclopentadienyl)-*FeB*₁₀*H*₁₅, *see* B -00355
 π -Cyclopentadienyl(π -7,9-B₉C₂H₁₁)iron, *see* B -00503
 (η^5 -2,4-Cyclopentadien-1-yl)[η^6 -decahydrocarbadecaborato(2-)]ferrate(1-), B -00433

- (η⁵-2,4-Cyclopentadien-1-yl)[(5,6,7,8,9,10-η)-decahydro-6,9-dicarbadecaborato(2-)]iron, B -00501
- (η⁵-2,4-Cyclopentadien-1-yl)[η⁵-decahydropentaborato(1-)]iron, B -00349
- (η⁵-2,4-Cyclopentadien-1-yl)[η⁵-decahydropentaborato(1-)]iron, B -00350
- (η⁵-Cyclopentadienyl)dicarbonyl(diphenylboryl)iron, *see* B -01114
- (Cyclopentadienyldicarbonyliron)boron dichloride, *see* B -00462
- (η⁵-2,4-Cyclopentadien-1-yl)[dihydrobis(1*H*-pyrazolato-*N*¹)-borato(1-)-*N*²,*N*²](trifluoromethyl)cobalt, B -00765
- (η⁵-2,4-Cyclopentadien-1-yl)[(2,3,5,6-η)-1,4-dihydro-1,4-dimethyl-1,4-diborin]cobalt, B -00729
- (η⁵-2,4-Cyclopentadien-1-yl)[(1,2,3,5,6-η)-1,4-dihydro-4,4-dimethyl-1-phenylborin]cobalt, *in* B -00848
- (η⁵-2,4-Cyclopentadien-1-yl)[(2,3,6,7-η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]cobalt, *in* B -00764
- 1,3-Cyclopentadien-1-yldimethylborane, B -00481
- 1,4-Cyclopentadien-1-yldimethylborane, B -00480
- Cyclopentadienyl(1,4-dimethyl-1,4-dibora-2,5-cyclohexadiene)cobalt, *see* B -00729
- (η⁵-2,4-Cyclopentadien-1-yl)[η⁶-dodecahydrodicarbadodecaborato(2-)]iron, B -00508
- (η⁵-2,4-Cyclopentadien-1-yl)[(7,8,9,10,11,12-η)-dodecahydro-7,9-dicarbadodecaborato(2-)]iron, *see* B -00508
- 1-(η⁵-Cyclopentadienyl)-1,4,6-FeC₂B₆H₈, *see* B -00490
- 4-(η-Cyclopentadienyl)-4,1,8-FeC₂B₆H₈, *see* B -00489
- closo*-[1-η⁵-Cyclopentadienylferrate-2-CB₉H₁₀], *see* B -00433
- (η⁵-2,4-Cyclopentadien-1-yl)[(2,3,4,5,6-η)-heptahydro-2,5-dicarbahexaborato(1-)-*H*^μ]iron, B -00485
- (η⁵-2,4-Cyclopentadien-1-yl)[(2,3,4,5,6-η)-heptahydro-4,5-dicarbahexaborato(1-)-*H*^μ]iron, *see* B -00486
- (η⁵-2,4-Cyclopentadien-1-yl)[(2,3,4,5,6-η)-hexahydro-2,3-dicarbahexaborato(2-)]hydroiron, B -00486
- (η⁵-2,4-Cyclopentadien-1-yl)[(2,3,4,5,6-η)-hexahydro-2,3-dicarbahexaborato(2-)]iron, B -00482
- (η⁵-2,4-Cyclopentadien-1-yl)[hydrotris(1-pyrazoyl)borato]cobalt(1+), B -00887
- π-Cyclopentadienyliron-π-(3)-1,2-B₉C₂H₁₁, *see* B -00495
- 4,6-π-Cyclopentadienyliron-C₂B₆H₈, *see* B -00490
- 1,2,3-π-Cyclopentadienyliron-C₂B₈H₁₀, *see* B -00501
- π-Cyclopentadienyliron-2,4-C₂B₄H₆ hydride, *see* B -00485
- (η⁵-2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-methylboratabenzene]iron, B -00726
- (η⁵-2,4-Cyclopentadien-1-yl)[(1,3,6,8-η)-octahydro-1,8-dicarbaoctaborato(2-)]iron, B -00489
- (η⁵-2,4-Cyclopentadien-1-yl)[(3,5,6,7,8-η)-octahydro-5,6-dicarbaoctaborato(2-)]iron, B -00490
- (η⁵-2,4-Cyclopentadien-1-yl)[η⁵-pentadecahydrodecaborato(2-)]iron, B -00355
- (η⁵-2,4-Cyclopentadien-1-yl)[(1,2,3,4,5-η)-1,2,3,4,5-pentaphenyl-1*H*-borole]cobalt, *in* B -01343
- (η⁵-2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-phenylboratabenzene]cobalt(1+), B -00985
- (η⁵-2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-phenylboratabenzene]iron, B -00986
- (η⁵-2,4-Cyclopentadien-1-yl)[(η⁶-phenyl)-triphenylborato(1-)]iron, B -01310
- (η⁵-2,4-Cyclopentadien-1-yl)[(η⁶-phenyl)-triphenylborato(1-)]ruthenium, B -01311
- (η⁵-2,4-Cyclopentadien-1-yl)[tetrahydroborato(1-)-*H*]-bis(triphenylphosphine)ruthenium, B -01384
- (η⁵-2,4-Cyclopentadien-1-yl)[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-), B -00502
- (η⁵-2,4-Cyclopentadien-1-yl)[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron, B -00495
- (η⁵-2,4-Cyclopentadien-1-yl)[(7,8,9,10,11-η)-undecahydro-7,9-dicarbaundecaborato(2-)]iron, B -00503
- Cyclopentaneboronic acid, *see* B -00332
- 9-(1-Cyclopenten-1-yl)-9-borabicyclo[3.3.1]nonane, B -00854
- B*-Cyclopentyl-9-BBN, *see* B -00862
- B*-Cyclopentyl-9-BBN hydride, *see* B -00864
- 9-Cyclopentyl-9-borabicyclo[3.3.1]nonane, B -00862
- Cyclopentylborane, B -00328
- 9-Cyclopentyl-9-boratabicyclo[3.3.1]nonane, B -00864
- Cyclopentylboronic acid, *see* B -00332
- Cyclopentylboronic acid dimethyl ester, *see* B -00500
- Cyclopentylidibromoborane dimethyl sulfide, *see* B -00498
- Cyclopentylidihydroxyborane, B -00332
- Cyclopentylidimethoxyborane, B -00500
- B*-(Cyclopentylmethyl)-9-BBN, *see* B -00914
- 9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B -00914
- O*²⁷-De(2-amino-3-methyl-1-oxobutyl)boromycin, *in* B -01391
- Decaborane(12), B -00042
- ▷ Decaborane(14), B -00043
- Decaborane(16), *see* B -00045
- Decaborane(16), *see* B -00044
- Decaborane(16), *see* B -00046
- Decaborane(12) compd. with 1,1'-thiobis[ethane](1:2), *in* B -00042
- [Decahydro-7-methyl-π-7-phospha-10-carbaundecaborato(1-)]-(triphenyl-π-cyclopropenyl)nickel, B -01221
- 9-(5-Decen-5-yl)-9-BBN, *see* B -01088
- 5-Decenylbis(3-methyl-2-butyl)borane, *see* B -01157
- (5-Decenyl)dichloroborane, *see* B -00691
- (5-Decenyl)dicyclohexylborane, *see* B -01209
- 5-Decenylidimethylborane, *see* B -00805
- (5-Decenyl)disiamylborane, *see* B -01157
- Decyl borate, *see* B -01330
- Desvalinoboromycin, *in* B -01391
- Devalylboromycin, *in* B -01391
- Diacetoxydifluoroborate, *see* B -00221
- Diallylbutylborane, *see* B -00687
- Diallylhexylborane, *see* B -00792
- 1,5-Diallyl-3-(methoxymethyl)-1-bora-2-cyclohexene, B -00857
- 1,5-Diallyl-3-methoxy-2-methyl-1-bora-2-cyclohexene, B -00858
- Diallylpropylborane, *see* B -00604
- Diaminoborane, B -00011
- 1,4-Diazabicyclo[2.2.2]octane, compd. with 9-borabicyclo[3.3.1]nonane(1:1), *see* B -00925
- DIB-borane TMEDA, *see* B -00939
- 2,6-Diboraadamantane, *see* B -00543
- 1,6-Diboracyclodecane, B -00566
- ▷ Diborane(6), *in* B -00006
- 2,6-Diboratricyclo[3.3.1.1^{3,7}]decane, B -00543
- Dibromoborane diethyl ether, B -00247
- Dibromoborane dimethyl sulfide, B -00113
- Dibromoborane etherate, *see* B -00247
- Dibromoborane, *see* B -01399
- 5-Dibromoboryl-1,2,3,4,5-pentamethyl-1,3-cyclopentadiene, *see* B -00660
- Dibromobutylborane, B -00228
- Dibromo(5-chloro-1-pentenyl)borane dimethyl sulfide, B -00492
- Dibromo(5-chloro-1-pentenyl)[thiobis[methane]]boron, *see* B -00492
- Dibromocyclopentylborane dimethyl sulfide, B -00498
- Dibromocyclopentyl[thiobis[methane]]boron, *see* B -00498
- Dibromo(dibutylamino)borane, B -00559
- 1,1-Dibromo-*N,N*-dibutylboranamine, *see* B -00559
- Dibromo(diethylamino)borane, B -00236
- 1,1-Dibromo-*N,N*-diethylboranamine, *see* B -00236
- Dibromo(dimethylamino)borane, B -00094
- Dibromo(dimethylamino)borine, *see* B -00094
- 1,1-Dibromo-*N,N*-dimethylboranamine, *see* B -00094
- Dibromo(1,3-dimethyl-1-butenyl)borane, B -00389
- Dibromo(3,3-dimethyl-1-butenyl)borane, B -00390
- Dibromo(1,3-dimethyl-1-butenyl)[thiobis[methane]]boron, *in* B -00389
- Dibromo(3,3-dimethyl-1-butenyl)[thiobis[methane]]boron, *in* B -00390
- Dibromo(*N,N*-dimethylmethanamine)methylboron, *see* B -00262
- Dibromo(dipropylamino)borane, B -00411
- 1,1-Dibromo-*N,N*-dipropylboranamine, *see* B -00411
- Dibromoethylborane, B -00085
- Dibromo(1-ethyl-1-butenyl)borane, B -00391
- Dibromo(1-ethyl-1-butenyl)[thiobis[methane]]boron, *in* B -00391

- Dibromo(1-ethylbutyl)borane, B -00404
 Dibromo(1-ethylbutyl)[thiobis[methane]]boron, *in* B -00404
 Dibromo-1-hexenylborane, B -00392
 Dibromo(3-hexen-3-yl)borane, *see* B -00391
 Dibromohexylborane, B -00405
 Dibromo(3-hexyl)borane, *see* B -00404
 Dibromohydro[1,1'-oxybis[ethane]]boron, *see* B -00247
 Dibromohydro[thiobis[methane]]boron, *see* B -00113
 Dibromomethylborane, B -00052
 Dibromomethylborane 4-methylpyridine, B -00479
 Dibromo(methyl)borane γ -picoline, *see* B -00479
 Dibromomethylborane pyridine, B -00382
 Dibromomethylborane trimethylamine, B -00262
 Dibromomethylborane trimethylphosphine, B -00263
 Dibromo(2-methylcyclohexyl)borane dimethyl sulfide, B -00617
 Dibromo(2-methylcyclohexyl)[thiobis[methane]]boron, *see* B -00617
 Dibromo(2-methylcyclopentyl)borane, B -00393
 Dibromo(2-methylcyclopentyl)[thiobis[methane]]boron, *in* B -00393
 Dibromomethyl(4-methylpyridine)boron, *see* B -00479
 Dibromo(2-methylpentyl)borane, B -00406
 Dibromo(2-methylpentyl)[thiobis[methane]]boron, *in* B -00406
 Dibromomethyl(pyridine)boron, *see* B -00382
 Dibromomethyl(trimethylphosphine)boron, *see* B -00263
 Dibromo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, B -00660
 Dibromophenylborane, B -00360
 Dibromophenylborine, *see* B -00360
 2,6-Dibromo-4,4,8,8-tetraethyl-4*H*,4*H*,8*H*,8*H*-7*a*,8*a*-diaz-3*a*,4*a*-diazonia-4,8-diborata-*s*-indacene, *see* B -00912
 Dibutoxy(3,7-dimethyl-1,6-octadien-3-yloxy)borane, B -01100
 Dibutoxyethylborane, B -00714
 Di-*tert*-butoxyethylborane, B -00715
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 Dibutoxy(iodomethyl)borane, B -00621
 Dibutoxypentylborane, B -00877
 Dibutyl(2-acetimidoyl-*N*-phenyl-1-cyclohexen-1-ylaminato)boron-, *see* B -01206
 Dibutyl(2-benzimidoyl-*N*-phenyl-1-cyclohexen-1-ylaminato)boron-, *see* B -01292
 9,9-Dibutyl-9-borabicyclo[3.3.1]nonanate, *see* B -01015
 1,1-Dibutylboranamine, *see* B -00578
 Dibutylborane, B -00567
 9,9-Dibutyl-9-boratabicyclo[3.3.1]nonane, B -01015
 Dibutylborine, *see* B -00567
 Dibutylborinic acid, *see* B -00571
 Dibutylborinic acid 1-cyclohexen-1-yl ester, *see* B -00926
 Dibutylborinic acid 1-[(1,1-dimethylethyl)thio]-1-propenyl ester, *see* B -00975
 Dibutylborinic acid ethyl ester, *see* B -00712
 Dibutylborinic acid 1-ethyl-1-propenyl ester, *see* B -00874
 Dibutylborinic acid hexyl ester, *see* B -00936
 Dibutylborinic acid methyl ester, *see* B -00624
 Di-*sec*-butylborinic acid methyl ester, *see* B -00625
 Dibutylborinic acid 1-[4-(1-methylethyl)-2-oxo-3-oxazolidinyl]-1-propenyl ester, *see* B -01045
 Dibutylborinic acid 1-phenyl-1-propenyl ester, *see* B -01037
 Dibutylborinic acid propyl ester, *see* B -00751
 Dibutylboryl[2-(*N,N'*-dicyclohexylamidino)aminopyridinate], *see* B -01283
 Dibutylboryl[2-(*N,N'*-dicyclohexylamidino)aminopyrimidinate], *see* B -01273
N-Dibutylboryl-*N,N'*-dimethylphenylamidine, *see* B -01041
 3-(Dibutylboryl)-*N,N'*-dimethylpropylamine, *see* B -00881
 Dibutylboryl[2-(2-pyridyl)aminopyridinate], *see* B -01077
N,N-Dibutyl-1-butanamine compd. with tribromoborane(1:1), *see* B -00816
N,N-Dibutyl-1-butanamine compd. with trichloroborane(1:1), *see* B -00817
 Dibutyl(butylthio)borane, B -00824
 Dibutyl(1-*tert*-butylthio-1-propenyloxy)borane, B -00975
 ▸ Dibutylchloroborane, B -00562
 ▸ Dibutylchloroborine, *see* B -00562
 Dibutyl[2-chloro-*N*-[2-(1-iminoethyl)cyclohexylidene]benzenaminato-*N,N'*]boron, B -01204
 Dibutyl[4-chloro-*N*-[2-(1-iminoethyl)cyclohexylidene]benzenaminato-*N,N'*]boron, B -01205
 Dibutyl(5-chloro-2-imino-*N*-methyl-1(2*H*)-pyridinecarboxamidato-*N,N'*,*N*²)boron, B -00959
 Dibutyl(5-chloro-2-imino-*N*-phenyl-1(2*H*)-pyridinecarboxamidato-*N,N'*,*N*²)boron, B -01143
N,N-Dibutyl-1-chloro-1-phenylboranamine, *see* B -00909
 Dibutylcrotylborane, *see* B -00803
 Dibutyl(1-cyclohexenyloxy)borane, B -00926
 Dibutyl-1,5-cyclooctanediyborate(1-), *see* B -01015
N,N-Dibutyl-1,1-dichloroboraneamine, *see* B -00563
 Dibutyl(*N,N'*-dicyclohexyl-*N'*-2-pyridinylguanidinato-*N'',N''*)boron, B -01283
 Dibutyl(*N,N'*-dicyclohexyl-*N'*-2-pyrimidinylguanidinato-*N,N''*)boron, B -01273
 Dibutyl(diethylamino)borane, B -00833
 Dibutyl(diethylamino)borine, *see* B -00833
 1,1-Dibutyl-*N,N*-diethylboranamine, *see* B -00833
 Dibutyl(dimethylamino)borane, B -00719
 Di-*tert*-butyl(dimethylamino)borane, B -00720
 Dibutyl[3-(dimethylamino)propyl]borane, *see* B -00881
 Dibutyl[3-(dimethylamino)propyl-*C,N*]boron, B -00881
 Dibutyl(*N,N'*-dimethylbenzenecarboximidamidato-*N,N'*)boron, B -01041
 1,1-Dibutyl-*N,N*-dimethylboranamine, *see* B -00719
 Dibutyl(2,3-dimethyl-2-butyl)borane, *see* B -00933
 Dibutyl ethaneboronate, *see* B -00714
 Di-*tert*-butyl ethaneboronate, *see* B -00715
 Dibutylethoxyborane, B -00712
 Dibutyl[3-(ethylamino)propyl]borane, *see* B -00882
 Dibutyl[3-(ethylamino)propyl-*C,N*]boron, B -00882
 ▸ Dibutylfluoroborane, B -00564
 ▸ Dibutylfluoroborine, *see* B -00564
 Dibutyl hexaneboronate, *see* B -00937
 Dibutyl(hexyloxy)borane, B -00936
 Dibutyl(hexylthio)borane, B -00938
 Dibutylhexynylthexylborate, *see* B -01155
 Dibutyl-1-hexynyl(1,1,2-trimethylpropyl)borate(1-), B -01155
 Dibutyl(hydroxy)borane, B -00571
 Dibutyl[3-(1-hydroxyethenyl)-4-(1-methylethyl)-2-oxazolidinonato-*O*²,*O*³]boron, B -01008
 Dibutyl[3-[1-hydroxy-2-(methylthio)ethenyl]-4-(1-methylethyl)-2-oxazolidinonato-*O*²,*O*³]boron, B -01046
 Dibutyl[*N*-(3-imino-1,3-diphenylpropylidene)benzenaminato-*N,N'*]boron, B -01315
 Dibutyl[*N*-(1-iminoethyl)benzamidato-*N,N',O*]boron, B -01036
 Dibutyl[*N*-[2-(1-iminoethyl)cyclohexylidene]benzenaminato-*N,N'*]boron, B -01206
 Dibutyl[*N*-2-(1-iminoethyl)cyclohexylidene]-4-methylbenzenaminato-*N,N'*]boron, B -01222
 Dibutyl(2-imino-*N*-methyl-1(2*H*)-pyridinecarboxamidato-*N,N'*,*N*²)boron, B -00964
 Dibutyl[*N*-(iminophenylmethyl)benzenecarboximidamidato-*N*¹,*N,N'*]boron, B -01201
 Dibutyl[*N*-(2-iminophenylmethyl)cyclohexylidene]benzenaminato-*N,N'*]boron, B -01292
 Dibutyl iodomethylboronate, *see* B -00621
 Dibutyl[1-(4-isopropyl-2-oxo-3-oxazolidinyl)propen-1-yloxy]borane, B -01045
 Dibutylmethoxyborane, B -00624
 Di-*sec*-butylmethoxyborane, *see* B -00625
 Dibutyl(2-methyl-1,3-diphenyl-1,3-propanediiminato-*N,N'*)boron, B -01251
 Dibutyl[*N*-(2-methylphenyl)-*N'*-2-pyridinylureato-*N,N''*]boron, B -01178
 Dibutyl[*N*-(2-methylphenyl)-*N'*-2-pyridinylureato-*N,N',O*]boron, B -01179
 Dibutyl(methylthio)borane, B -00630
 Dibutyl(2-penten-3-yloxy)borane, B -00874
 Dibutyl(pentylthio)borane, B -00878
 1,1-Dibutyl-*N*-(1-phenylbutylidene)boranamine, B -01081
 Dibutyl(1-phenyl-1-propenyloxy)borane, B -01037
 1,1-Dibutyl-*N*-(1-phenylpropylidene)boranamine, B -01038
 Dibutyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N''*)boron, B -01146
 Dibutyl[1-(phenylthio)pentyl]borane, B -01129

- Dibutyl-2-propenylborane, B -00743
 Dibutylpropoxyborane, B -00751
 Dibutyl(*N*-2-pyridinyl-2-pyridinaminato-*N,N,N'*)boron, B -01077
 Dibutylthexylborane, *see* B -00933
 Dibutylthioborinic acid butyl ester, *see* B -00824
 Dibutylthioborinic acid hexyl ester, *see* B -00938
 Dibutylthioborinic acid methyl ester, *see* B -00630
 Dibutylthioborinic acid pentyl ester, *see* B -00878
 Dibutyl(1,1,2-trimethylpropyl)borane, B -00933
 Dicarbacyclopentaboranyliron tricarbonyl, *see* B -00321
 1,2-Dicarbadeceborane(10), B -00141
 1,6-Dicarbadeceborane(10), B -00142
 1,10-Dicarbadeceborane(10), B -00143
 1,2-Dicarbadeceborane(12), B -00151
 ▶ 1,7-Dicarbadeceborane(12), B -00152
 1,12-Dicarbadeceborane(12), B -00153
 1,7-Dicarbadeceborane(12)-1,7-dicarboxylic acid, B -00278
 1,2-Dicarbadeceborane(12)-1,2-dimethanol, B -00289
 1,7-Dicarbadeceborane(12)-1,7-dimethanol, B -00290
 μ -1,2-Dicarbadeceborane(12)-1,2-diylidilithium, B -00144
 μ -1,7-Dicarbadeceborane(12)-1,7-diylidilithium, B -00145
 μ -1,12-Dicarbadeceborane(12)-1,12-diylidilithium, B -00146
 μ -1,2-Dicarbadeceborane(12)-1,2-diylidiodium, B -00147
 (1,2-Dicarbadeceboran(12)-1-yl)ferrocene, B -00780
 (1,2-Dicarbadeceboran(12)-3-yl)ferrocene, B -00781
 1,2-Dicarba-3-germadodeceborane, B -00148
 2,4-Dicarbaheptaborane(7), B -00123
 μ -2,4-Dicarbaheptaborane(7)-2,4-diylidilithium, B -00092
 1,2-Dicarbahexaborane(6), B -00107
 1,6-Dicarbahexaborane(6), B -00108
 2,3-Dicarbahexaborane(8), B -00131
 1,7-Dicarbaoctaborane(8), B -00132
 1,2-Dicarbapentaborane(7), B -00121
 1,5-Dicarbapentaborane(5), B -00091
 1,2-Dicarba-3-plumbadodeceborane(11), B -00149
 2,3-Dicarba-1-plumbaheptaborane(6), B -00109
 1,2-Dicarba-3-stannadodeceborane, B -00150
 2,3-Dicarba-1-stannaheptaborane(6), B -00110
 Di- μ -carbonylbis[(1,2,3,4,5,6- η)-1-methylboratabenzene]diiron, B -00988
 Dicarbonyl[bis(pyrazolyl)borato]rhodium, *see* B -00519
 Dicarbonylchloro[hydrotris(pyrazolato)borato(1-)]ruthenium, B -00722
 Dicarbonyl(η^5 -2,4-cyclopentadien-1-yl)dichloroboraneiron, B -00462
 Dicarbonyl- π -cyclopentadienyl(dichloroboryl)iron, *see* B -00462
 Dicarbonyl(η^5 -2,4-cyclopentadien-1-yl)diphenylboraneiron, B -01114
 Dicarbonyl- π -cyclopentadienyl(diphenylboryl)iron, *see* B -01114
 Dicarbonyl(η^5 -2,4-cyclopentadien-1-yl)[(2,3- η)-heptahydro-4,5-dicarbahexaborato(1-)]iron, B -00592
 Dicarbonyl(η^5 -cyclopentadienyl)irondichloroborane, *see* B -00462
 Dicarbonyl(η^5 -cyclopentadienyl)irondiphenylborane, *see* B -01114
 Di- μ -carbonyldicarbonylbis[(3,4,5- η)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]diiron, B -00766
 Di- μ -carbonyldicarbonylbis[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]diiron, B -01149
 Di- μ -carbonyldicarbonylbis[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]diiron, B -01340
 Di- μ -carbonyldicarbonylbis(1-methylborinato)diiron, *see* B -00988
 Di- μ -carbonyldicarbonylbis[(1,2,3,4,5,6- η)-1-phenylboratabenzene]diiron, B -01277
 Di- μ -carbonyldicarbonylbis(1-phenylborinato)diiron, *see* B -01277
 Dicarbonyl[dihydrobis(1*H*-pyrazolato-*N'*)borato(1-)-*N*³,*N*^{3'}]rhodium, B -00519
 Dicarbonyl[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]iodoiron, *see* B -00664
 Dicarbonyl[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹](trimethylsilyl)iron, B -00866
 Dicarbonyl[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]iodoiron, *see* B -00990
 Dicarbonyl[hydrotris(pyrazolato)borato(1-)]iodoruthenium, B -00723
 Dicarbonyl[hydrotris(pyrazolato)borato(1-)](2-methyl- π -allyl)tungsten, *see* B -00951
 Dicarbonyl[hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*²,*N*²]-[(1,2,3- η -2-methyl-2-propenyl)molybdenum, B -00950
 Dicarbonyl[hydrotris(pyrazolato)borato(1-)](η^3 -2-methylpropenyl)tungsten, B -00951
 Dicarbonyl[η^5 -nonahydrodicarbanonaborato(4-)]-(triphenylphosphine)ruthenium, B -01196
 Dicarbonyl[(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]nickel, *in* B -01343
 Dicarbonyl[(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt, B -00843
closo-6,6-Dicarbonyl-6-triphenylphosphine-6-ruthenanonahydro-2,3-dicarbanonaborane, *see* B -01196
 1,7-Dicarboxy-1,7-dicarbadeceborane(12), *see* B -00278
 2,4-Dichlorobenzeneboronic acid, *see* B -00363
 2,6-Dichlorobenzeneboronic acid, *see* B -00364
 3,5-Dichlorobenzeneboronic acid, *see* B -00365
 μ -Dichlorobis[hydrotris(3,5-dimethylpyrazolyl)borato]chloriridium, *see* B -01327
 1,1-Dichloro-*N,N*-bis(1-methylethyl)boranamine, *see* B -00416
 Dichlorobis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato]uranate(2-), B -00294
 Dichloroborane carbonitrile *N,N*-diethylethanamine, *see* B -00499
 Dichloroborane carbonitrile pyridine, *see* B -00362
 Dichloroborane diethyl ether, B -00248
 Dichloroborane dimethyl sulfide, B -00114
 Dichloroborane ethyl etherate, *see* B -00248
 Dichloroborane methyl sulfide, *see* B -00114
 Dichloroborane[1,1'-oxybis(ethane)], *see* B -00248
 Dichloroborane, *see* B -01400
 Dichloroborane ethyl etherate, *see* B -00248
 Dichloroborylferrocene, B -00640
 1-Dichloroboryl-1,2,3,4,5-pentamethyl-2,4-cyclopentadiene trimethylamine, *see* B -00865
 ▶ Dichloro(butyl)borane, *see* B -00230
 Dichlorocyanoborane pyridine, B -00362
 Dichlorocyanoborane triethylamine, B -00499
 Dichloro(cyano-*C*)(*N,N*-diethylethanamine)boron, *see* B -00499
 Dichloro(cyano-*C*)(pyridine)boron, *see* B -00362
 Dichloro[μ -(1,3,5,7-cyclooctanetetrayl-*C*¹,*C*⁵:*C*³,*C*⁷)]-bis(pyridine)diboron, *see* B -01074
 Dichloro[μ -(1,3,5,7-cyclooctanetetrayl-*C*¹,*C*⁵:*C*³,*C*⁷)]-bis[thiobis(methane)]diboron, *see* B -00802
 2,6-Dichloro-4*H*,4*H*,8*H*,8*H*-7*a*,8*a*-diazia-3*a*,4*a*-diazonia-4,8-diborata-*s*-indacene, *see* B -00386
 2,6-Dichloro-2,6-diboraadamantane bis(dimethyl sulfide), B -00802
 2,6-Dichloro-2,6-diboraadamantane bis(pyridine), B -01074
 Dichloro(dibutylamino)borane, B -00563
 Dichloro(*N,N*-dibutyl-1-butanamine)phenylboron, *see* B -01086
 Di- μ -chlorodichlorobis[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)-hydroborato(1-)-*N*²,*N*²,*N*^{2'}]diiridium, B -01327
 Dichloro(diethylamino)borane, B -00240
 Dichloro(diethylamino)borane, *see* B -00240
 1,1-Dichloro-*N,N*-diethylboranamine, *see* B -00240
 Dichloro(*N,N*-diethylethanamine)phenylboron, *see* B -00775
 Dichloro(diisopropylamino)borane, B -00416
 Dichloro(1,1-dimethylethyl)borane, *see* B -00229
 Dichloro(*N,N*-dimethylformamide)bis(pyridine)rhodium(1+) tetrahydroborate, *see* B -00855
 Dichloro(*N,N*-dimethylformamide-*O*)bis(pyridine)-[tetrahydroborato(1-)-*H*]rhodium, B -00855
 Dichloro(*N,N*-dimethylmethanamine)(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)boron, *see* B -00865
 Dichloro(diphenylamino)borane, B -00760

- Dichloro(diphenylamino)borine, *see* B -00760
 1,1-Dichloro-*N,N*-diphenylboranamine, *see* B -00760
 Dichloroethoxyborane, B -00087
 Dichloroethoxyborine, *see* B -00087
 ▶ Dichloroethylborane, B -00086
 Dichloroferrocenylborane, *see* B -00640
 Dichloroferrocenyl(pyridine)boron, *in* B -00640
 Dichlorohydro[1,1'-oxybis[ethane]]boron, *see* B -00248
 Dichlorohydro[thiobis[methane]]boron, *see* B -00114
 Dichloro[hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*^{2'},*N*^{2''}]-
 (1-isocyanobutane)rhodium, B -00897
 ▶ Dichloroisopropylborane, B -00161
 ▶ Dichloroisopropylborine, *see* B -00161
 Dichloromesitylborane, *see* B -00590
 Dichloromesitylborine, *see* B -00590
 Dichloromethaneboronic acid, *see* B -00054
 Dichloro(methanol)[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)-
 hydroborato(1-)-*N*²,*N*^{2'},*N*^{2''}]rhodium, B -01000
 Dichloro(*N*-methylanilino)borane, *see* B -00465
 Dichloro(*N*-methylanilino)borine, *see* B -00465
 Dichloromethylborane, B -00053
 Dichloromethylborine, *see* B -00053
 (Dichloromethyl)boronic acid, *see* B -00054
 Dichloro(2-methylcyclopentyl)boron, *see* B -00394
 (Dichloromethyl)dihydroxyborane, B -00054
 ▶ Dichloro(1-methylethyl)borane, *see* B -00161
 Dichloro(methylphenylamino)borane, B -00465
 1,1-Dichloro-*N*-methyl-*N*-phenylboranamine, *see* B -00465
 Dichloro(4-methylphenyl)borane, B -00463
 Dichlorooctylborane, *see* B -00552
 Dichlorooctylborane, B -00554
 Dichlorooctylborine, *see* B -00554
 Dichlorooctylboron, *see* B -00552
 Dichlorooctyl[thiobis[methane]]boron, *in* B -00552
 Dichloro(pentafluorophenyl)borane, B -00356
 ▶ Dichloro(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane,
 B -00663
 Dichloro(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)-
 (pyridine)boron, *in* B -00663
 Dichlorophenylborane, B -00361
 Dichlorophenylborane *N,N*-diethylethanamine, *see* B -00775
 Dichlorophenylborane tributylamine, *see* B -01086
 Dichlorophenylborane triethylamine, *see* B -00775
 (2,4-Dichlorophenyl)boronic acid, *see* B -00363
 (2,6-Dichlorophenyl)boronic acid, *see* B -00364
 (3,5-Dichlorophenyl)boronic acid, *see* B -00365
 (2,4-Dichlorophenyl)dihydroxyborane, B -00363
 (2,6-Dichlorophenyl)dihydroxyborane, B -00364
 (3,5-Dichlorophenyl)dihydroxyborane, B -00365
 ▶ Dichloropropylborane, B -00162
 ▶ Dichloro(2-propyl)borane, *see* B -00161
 ▶ Dichloropropylborine, *see* B -00162
 2,4-Dichloro-1,3,5,6-tetramethylborazine, B -00275
 Dichloro-*p*-tolylborane, *see* B -00463
 Dichloro(2,4,6-trimethylphenyl)borane, B -00590
 Dicyclohexylborane, B -00791
 Dicyclohexylborinic acid methyl ester, *see* B -00870
 Dicyclohexylborohydride, *see* B -00797
 Dicyclohexylchloroborane, *see* B -00787
 Dicyclohexyldihydroborate(1-), B -00797
 Dicyclohexyl(1-ethylbutyl)borane, B -01098
 Dicyclohexyl-1-hexenylborane, B -01090
 Dicyclohexyl-1-hexenyl-1-hexenylborate(1-), B -01253
 Dicyclohexylhexylborane, B -01099
 Dicyclohexyl(3-hexyl)borane, *see* B -01098
 Dicyclohexylhydromethylborate(1-), B -00872
 Dicyclohexyl(methoxy)borane, B -00870
 Dicyclohexyl(3-methyl-1,3-butadienyl)borane, B -01040
 Dicyclohexylmethylhydroborate, *see* B -00872
 Dicyclohexyl(methylthio)borane, B -00871
 Dicyclohexyl-1-octenylborane, B -01153
 Dicyclohexyl(2-phenylethenyl)borane, B -01148
 (*N,N*'-Dicyclohexyl-*N*'-2-pyridinylguanidinato-*N*'',*N*'')diethyl-
 boron, B -01207
 (*N,N*'-Dicyclohexyl-*N*'-2-pyridinylguanidinato-*N*'',*N*'')diphenyl-
 boron, B -01325
 (*N,N*'-Dicyclohexyl-*N*'-2-pyridinylguanidinato-*N*'',*N*'')dipropyl-
 boron, B -01252
 (*N,N*'-Dicyclohexyl-*N*'-2-pyrimidinylguanidinato-*N,N,N*'')-
 bis(1-methylethyl)boron, B -01224
 (*N,N*'-Dicyclohexyl-*N*'-2-pyrimidinylguanidinato-*N,N,N*'')diphenyl-
 boron, B -01316
 Dicyclohexylstyrylborane, *see* B -01148
 Dicyclohexyltetrahydro[μ-(*N,N,N,N*'-tetramethyl-1,2-
 ethanediamine-*N,N*'')]diboron, *in* B -00401
 (*N,N*'-Dicyclohexyl-*N*'-2-thiazolylguanidinato-*N,N,N*'')bis(1-
 methylethyl)boron, B -01208
 (*N,N*'-Dicyclohexyl-*N*'-2-thiazolylguanidinato-*N,N,N*'')diphenyl-
 boron, B -01307
 Dicyclohexylthioborinic acid methyl ester, *see* B -00871
 Di-π-cyclopentadienyl(trifluoroboryl)tin, B -00647
 Dicyclopentylborinic acid 1-[(1,1-dimethylethyl)thio]-1-
 propenyl ester, *see* B -01044
 Dicyclopentylborinic acid methyl ester, *see* B -00738
 Dicyclopentylbromoborane, *see* B -00680
 Dicyclopentyl(1-*tert*-butylthio-1-propenyloxy)borane, B -01044
 Dicyclopentylchloroborane, *see* B -00681
 Dicyclopentyl(2,3-dimethyl-2-butyl)borane, *see* B -01012
 Dicyclopentylmethoxyborane, B -00738
 Dicyclopentyl(methylthio)borane, B -00742
 Dicyclopentyltetrahydro[μ-(*N,N,N,N*'-tetramethyl-1,2-
 ethanediamine-*N,N*'')]diboron, *in* B -00328
 Dicyclopentylthexylborane, *see* B -01012
 Dicyclopentylthioborinic acid methyl ester, *see* B -00742
 Dicyclopentyl(1,1,2-trimethylpropyl)borane, B -01012
 ▶ Diethenylmethylborane, *see* B -00324
 Diethoxyethylborane, B -00427
 ▶ 7,8-μ-Diethylaluminio-1,2-dicarba-*nido*-undecaborane(13), *see*
 B -00459
 Diethylamine compd. with borane(1:1), *see* B -00283
 4-(Diethylamino)benzenediazonium tetraphenylborate(1-),
 B -01344
 Diethylaminoboron difluoride, *see* B -00242
 Diethylaminochloro(1-butenyloxy)borane, B -00553
 (Diethylamino)chloro(cyclopentenyl)borane, B -00606
 Diethylaminodichloroborane, *see* B -00240
 Diethylaminodiethylborane, B -00579
 (Diethylamino)diethynylborane, B -00534
 (Diethylamino)difluoroborane, B -00242
 (Diethylamino)difluoroborine, *see* B -00242
 4-*N,N*-Diethylamino-2,2'-dihydroxy-4'-methylazobenzene
 monophenylboron chelate, *see* B -01218
 4-*N,N*-Diethylamino-2,2'-dihydroxy-5'-methylazobenzene
 monophenylboron chelate, *see* B -01219
 (Diethylamino)dimethylborane, B -00436
 (Diethylamino)dimethylborine, *see* B -00436
 (Diethylamino)di-1-propynylborane, B -00671
 [5-(Diethylamino)-2-[(2-hydroxy-4-methylphenyl)azo]-
 phenolato(2-)]phenylboron, B -01218
 [5-(Diethylamino)-2-[(2-hydroxy-5-methylphenyl)azo]-
 (phenolato(2-))]phenylboron, B -01219
 4-Diethylamino-2-methylphenylammonium tetraphenylborate,
 B -01351
 ▶ Diethylborane, B -00245
 Diethylboric acid, *see* B -00253
 Diethylboric oxide, *see* B -00582
 ▶ Diethylborine, *see* B -00245
 Diethylborinic acid, *see* B -00253
 Diethylborinic acid anhydride, *see* B -00582
 Diethylborinic acid butyl ester, *see* B -00570
 Diethylborinic acid 1,1-dimethyl-3-butenyl ester, *see* B -00703
 Diethylborinic acid 1-ethyl-3-butenyl ester, *see* B -00704
 Diethylborinic acid ethyl ester, *see* B -00425
 Diethylborinic acid hexyl ester, *see* B -00713
 ▶ Diethylborinic acid methyl ester, *see* B -00337
 Diethylboryl 2-[(*N,N*'-dicyclohexylamidino)amino]pyridinate,
see B -01207
 [Diethylboryl]-*aci*-nitroacetic acid methyl ester, *see* B -00494
N,N'-Diethylboryl-3,3',5,5'-tetramethyl-4,4'-diethyl-2,2'-dipyrrolyl-
 methene, B -01181
 Diethylbromoborane, *see* B -00235

- Diethyl(butoxy)borane, *see* B -00570
 (Diethylcarbomodithioato-*S,S'*)[(9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]gold, B -00512
 Diethylchloroborane, *see* B -00237
 Diethyl(*N,N*-diethyl-*N'*-phenylthioureato)borane, B -00962
N,N-Diethyl-1,1-diethynylboranamine, *see* B -00534
N,N-Diethyl-1,1-difluoroboranamine, *see* B -00242
 1,1-Diethyl-*N,N*-dimethylboranamine, *see* B -00437
N,N-Diethyl-1,1-dimethylboranamine, *see* B -00436
 Diethyl(1,1-dimethyl-3-buten-1-yloxy)borane, B -00703
N,N-Diethyl-1,1-di-1-propynylboranamine, *see* B -00671
N,N-Diethylethanamine, compd. with 9-borabicyclo[3.3.1]nonane(1:1), *see* B -00931
N,N-Diethylethanamine compd. with 1-boratricyclo[3.3.1.1^{3,7}]decane(1:1), *see* B -00974
N,N-Diethylethanamine, compd. with cyclohexylborane(1:1), *see* B -00832
N,N-Diethylethanamine compd. with tribromoborane(1:1), *see* B -00421
N,N-Diethylethanamine compd. with trichloroborane(1:1), *see* B -00422
(*N,N*-Diethylethanamine)dihydro(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)boron, *in* B -00690
(*N,N*-Diethylethanamine)(1,2-dimethylpropyl)dihydroboron, *in* B -00335
N,N-Diethylethanamine phenylborane, *in* B -00378
(*N,N*-Diethylethanamine)trihydroboron, *see* B -00443
(*N,N*-Diethylethanamine)triphenylboron, *see* B -01250
Diethyl ethaneboronate, *see* B -00427
Diethyl(ethoxy)borane, *see* B -00425
Diethyl(1-ethyl-2-butenyl)borane, B -00701
Diethyl[3-ethyl-5-[(4-ethyl-3,5-dimethyl-2*H*-pyrrol-2-ylidene)methyl]-2,4-dimethyl-1*H*-pyrrolato-*N*¹,*N*⁵]boron, *see* B -01181
Diethyl(ethyl nitrocarbamat)borane pyridine, B -00777
Diethyl(ethyl nitrocarbamat)(pyridine)boron, *see* B -00777
Diethyl(1-hexen-4-yloxy)borane, B -00704
Diethyl(hexyloxy)borane, B -00713
Diethyl(hexylthio)borane, B -00717
Diethylhydroxyborane, B -00253
Diethylisopentenylborane, *see* B -00615
Diethyl(methyl)borane, *see* B -00550
▶ Diethylmethoxyborane, B -00337
▶ Diethylmethylborane, B -00334
▶ Diethylmethylborine, *see* B -00334
Diethyl(3-methyl-2-butenyl)borane, B -00615
Diethyl(methylnitroacetato)borane, B -00494
Diethyl(methyl nitroacetato-*O*¹,*O*²)boron, *see* B -00494
Diethyl(2-methyl-2-propenyl)borane, B -00550
Diethyl(pentylthio)borane, B -00631
Diethyl phenyldithioboronate, *see* B -00666
(*N,N*-Diethyl-*N'*-phenylthioureato-*N',S*)diethylboron, *see* B -00962
(*N,N*-Diethyl-*N'*-phenylthioureato)dimethylborane, B -00856
(*N,N*-Diethyl-*N'*-phenylthioureato-*N',S*)dimethylboron, *see* B -00856
(*N,N*-Diethyl-*N'*-phenylthioureato)diphenylborane, B -01220
(*N,N*-Diethyl-*N'*-phenylthioureato-*N',S*)diphenylboron, *see* B -01220
Diethylphosphine ethylborane, *in* B -00112
▶ Diethyl-2-propenylborane, B -00496
Diethyl(2-pyridinemethanaminato-*N*¹,*N*²)boron, *see* B -00676
Diethyl(*N*-2-pyridinyl-2-pyridinaminato-*N,N,N'*)boron, B -00894
Diethyl(2-pyridylmethylamino)borane, B -00676
▶ Diethyl[tetrakis(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*^{2'}]thallium, B -00997
Diethylthioborinic acid hexyl ester, *see* B -00717
Diethylthioborinic acid pentyl ester, *see* B -00631
Diferrocenylborinic acid, *see* B -01138
Diferrocenylhydroxyborane, B -01138
▶ Di-9*H*-fluoren-9-yl[tetrahydroborato(1-)-*H,H'*]thallium, B -01278
▶ Difluorenylthallium borohydride, *see* B -01278
Difluoro(2-acetylphenoxy)borane, B -00514
Difluorobis(trifluoromethyl)borate(1-), B -00078
Difluoroborane, B -00003
Difluoroborane dimethylamine, B -00126
Difluoroborane methanamine, *see* B -00069
Difluoroborane methylamine, B -00069
Difluoroborane *N*-methylmethanamine, *see* B -00126
Difluoroborane trimethylamine, B -00194
Difluoroborine, *see* B -00003
▶ Difluoroboryl acetylacetate, *see* B -00320
▶ Difluoroboryl 1,3-diphenyl-1,3-propanedionate, *see* B -00943
▶ Difluoro(1,3-diphenyl-1,3-propanedionato)boron, *see* B -00943
Difluoroethylborane, *see* B -00088
Difluoroethylborane pyridine, *in* B -00088
Difluoroethynylborane, *see* B -00079
Difluorohexylborane, B -00407
Difluorohexylborine, *see* B -00407
Difluorohydro(methanamine)boron, *see* B -00069
Difluorohydro(*N*-methylmethanamine)boron, *see* B -00126
Difluoro(2'-hydroxyacetophenonato)boron, *see* B -00514
Difluoro[1-(2-hydroxyphenyl)ethanone-*O,O'*]boron, *see* B -00514
Difluoromethoxyborane, B -00056
Difluoromethoxyborine, *see* B -00056
Difluoromethylborane, B -00055
▶ Difluoro(2,4-pentanedionato-*O,O'*)boron, B -00320
Difluorophenoxyborane, B -00368
Difluorophenylborane, B -00367
Difluorophenylborine, *see* B -00367
▶ Difluoro(1-phenyl-1,3-butanedionato-*O,O'*)boron, B -00641
Difluoropropoxyborane, B -00163
Difluorovinylborane, B -00081
Di(glycerin)borate, *see* B -00410
Diglycerol borate monopalmitate, *see* B -01212
Diglyceryl borate, *see* B -00410
Di-1-hexenylchloroborane, *see* B -00788
Dihexylbromoborane, *see* B -00808
Dihexyl(2,3-dimethyl-2-butyl)borane, *see* B -01106
Dihexyl-1-octynylthexylborate, *see* B -01284
Dihexyl-1-octynyl(1,1,2-trimethylpropyl)borate(1-), B -01284
Dihexyloxypropylborane, B -00978
Dihexyl propaneboronate, *see* B -00978
Dihexylthexylborane, *see* B -01106
Dihexyl(1,1,2-trimethylpropyl)borane, B -01106
Dihydrobis(3,5-dimethyl-1-pyrazolyl)borate, *see* B -00672
Dihydrobis(1*H*-pyrazolato-*N'*)borate(1-), B -00385
Dihydrobis(1-pyrazolyl)borate, *see* B -00385
Dihydrobis(trimethylamine)boron(1+), B -00456
Dihydrobis(trimethylphosphine)boron(1+), B -00457
Dihydrobis(triphenylphosphine)[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, B -01371
Dihydrobis(triphenylphosphine)[(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)]ruthenium, B -01372
Di- μ -hydrodihydrobis(2,6,6-trimethylbicyclo[3.3.1]hept-3-yl)diboron, *in* B -00690
1,4-Dihydro-4,4-dimethyl-1-phenylborin, *see* B -00848
Di- μ -hydrohexahydrotriborate(1-), *see* B -00021
[2-[1-(4,5-Dihydro-1*H*-imidazol-2-yl)-2-phenylethyl]phenyl]boronic acid, *see* B -01031
[2-[1-(4,5-Dihydro-1*H*-imidazol-2-yl)-2-phenylethyl]phenyl]dihydroxyborane, B -01031
Dihydroiodoboron, *see* B -00005
Dihydroiodo(4-methylpyridine)boron, 10CCI, *in* B -00005
Dihydroiodo[thiobis[methane]]boron, *see* B -00127
Dihydroiodo(trimethylphosphine)boron, *see* B -00201
Dihydroiodo(triphenylphosphine)boron, *see* B -01066
Dihydro(2-methylcyclopentyl)boron, *see* B -00834
5,6-Dihydro-6-methyldibenz[*c,e*][1,2]azaborine, *see* B -00845
4,5-Dihydro-1-phenylborepin, B -00764
Dihydro-1*H*-pyrrol-1-yl(tetrahydrofuran)boron, *see* B -00542
Dihydro(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N*)(1,1,2-trimethylpropyl)boron, *in* B -00420
2,2-Dihydro-2,2,4,6-tetraphenyl-1,3,2-dioxaborinium hydroxide inner salt, *see* B -01289
Dihydro[thiobis[methane]](1,1,2-trimethylpropyl)boron, *in* B -00420
Dihydro(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)borane, *see* B -00690
2,2'-Dihydroxyazobenzene, cyclic ester with phenylboronic acid, *see* B -01049
1-(Dihydroxyboryl)naphthalene, *see* B -00643
9-(Dihydroxyboryl)phenanthrene, *see* B -00885

- (N³-B)-2-[1-(*o*-Dihydroxyborylphenyl)-2-phenylethyl]-2-imidazole, *see* B -01031
- Dihydroxy(4-iodobutyl)borane, B -00244
- Dihydroxymethoxyborane, B -00067
- ▷ Dihydroxy(2-methoxyphenyl)borane, B -00476
- Dihydroxy(3-methoxyphenyl)borane, B -00477
- ▷ Dihydroxy(4-methoxyphenyl)borane, B -00478
- Dihydroxy(methyl)borane, B -00066
- Dihydroxy(2-methylphenyl)borane, B -00472
- ▷ Dihydroxy(3-methylphenyl)borane, B -00473
- ▷ Dihydroxy(4-methylphenyl)borane, B -00474
- Dihydroxy(1-naphthalenyl)borane, B -00643
- Dihydroxy(2-nitrophenyl)borane, B -00376
- ▷ Dihydroxy(3-nitrophenyl)borane, B -00377
- Dihydroxyoctylborane, B -00573
- Dihydroxypentylborane, *see* B -00339
- Dihydroxy(9-phenanthrenyl)borane, B -00885
- ▷ Dihydroxy(phenyl)borane, *see* B -00380
- Dihydroxy(2-phenylethenyl)borane, B -00520
- ▷ Dihydroxy(1-phenylethyl)borane, B -00528
- ▷ Dihydroxy(2-phenylethyl)borane, B -00529
- ▷ Dihydroxy(3-phenylpropyl)borane, B -00593
- Dihydroxy(phenylthiomethyl)borane, B -00475
- Dihydroxypropylborane, B -00178
- Dihydroxy(2,4,6-trichlorophenyl)borane, B -00359
- Dihydroxyvinylborane, B -00090
- Diiodoborane, B -00004
- Diiodoborane triethylamine, *in* B -00004
- Diiodoborane trimethylamine, *in* B -00004
- 5-Diiodoboryl-1,2,3,4,5-pentamethyl-1,3-cyclopentadiene, *see* B -00665
- Diiodoethylborane, *see* B -00089
- Diiodomethylborane, B -00059
- Diiodooctylborane compd. with thiobis[methane](1:1), *see* B -00710
- Diiodooctylborane dimethyl sulfide, B -00710
- Diiodooctyl[thiobis[methane]]boron, *see* B -00710
- Diiodo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, B -00665
- Diiodophenylborane, B -00369
- Diiodophenylborine, *see* B -00369
- Diisobutylborinic acid methyl ester, *see* B -00626
- Diisobutylmethoxyborane, *see* B -00626
- Diisopinocampheylmethylhydroborate, B -01184
- Diisopinocampheylborane, B -01151
- Diisopropylbenzenecarboximidamidato-*N,N'*-diethylboron, B -01183
- Diisopropylboryl 2-[(*N,N'*-dicyclohexylamidino)amino]pyrimidine, *see* B -01224
- Diisopropylboryl 2-[(*N,N'*-dicyclohexylamidino)amino]thiazolate, *see* B -01208
- 5-Diisopropylimino-2,2,4,4-tetraphenyl-2,4-diborata-1-oxa-3-oxoniacyclopentane, B -01334
- 1,2-Dilithio-1,2-dicarbadodecaborane(12), *see* B -00144
- 1,7-Dilithio-1,7-dicarbadodecaborane(12), *see* B -00145
- 1,12-Dilithio-1,12-dicarbadodecaborane(12), *see* B -00146
- 2,4-Dilithio-2,4-dicarbaheptaborane(7), *see* B -00092
- Dilithium-1,2-dicarbadodecaborate(2-), *see* B -00144
- Dilithium-1,7-dicarbadodecaborate(2-), *see* B -00145
- Dilithium-1,12-dicarbadodecaborate(2-), *see* B -00146
- Dimesitylborinic acid, *see* B -01075
- Dimesitylborinic acid 4-chlorophenyl ester, *see* B -01245
- Dimesitylborinic acid 4-(1,1-dimethylethyl)phenyl ester, *see* B -01308
- Dimesitylborinic acid 4-methoxyphenyl ester, *see* B -01269
- Dimesitylborinic acid methyl ester, *see* B -01126
- Dimesitylborinic acid 1-methylethyl ester, *see* B -01176
- Dimesitylborinic acid phenyl ester, *see* B -01246
- Dimesityl(4-*tert*-butylphenoxy)borane, *see* B -01308
- Dimesityl(4-chlorophenoxy)borane, *see* B -01245
- Dimesitylfluoroborane, *see* B -01073
- Dimesitylmethoxyborane, *see* B -01126
- Dimesityl(4-methoxyphenoxy)borane, *see* B -01269
- Dimesityl(methylamino)borane, *see* B -01128
- Dimesitylmethylborane, *see* B -01124
- Dimesityl(4-methylphenylthio)borane, *see* B -01271
- Dimesityl(methylthio)borane, *see* B -01127
- Dimesitylphenoxyborane, *see* B -01246
- Dimesitylphenylaminoborane, *see* B -01248
- Dimesityl(phenylthio)borane, *see* B -01247
- Dimesitylpropylborane, *see* B -01175
- Dimesityl(*p*-tolylthio)borane, *see* B -01271
- Dimethoxyborane, B -00119
- Dimethoxyborine, *see* B -00119
- 1,1-Dimethoxy-*N,N*-dimethylboranamine, *see* B -00270
- Dimethoxyfluoroborane, *see* B -00100
- Dimethoxymethylborane, *see* B -00179
- Dimethoxy(3-methyl-1,2-butadienyl)borane, B -00488
- Dimethoxy(2-methylcyclopentyl)borane, *see* B -00555
- Dimethoxyphenylborane, B -00530
- [1-[(3,4-Dimethoxyphenyl)methyl]-1,2,3,4-tetrahydro-6-methoxy-2-methyl-7-isoquinolinol-*N*²]trihydroboron, B -01145
- Dimethoxypropylborane, B -00338
- 3,3-Dimethylallenylboronic acid dimethyl ester, *see* B -00488
- (3,3-Dimethylallenyl)dimethoxyborane, *see* B -00488
- ▷ 7,8- μ -Dimethylaluminio-1,2-dicarba-*nido*-undecaborane(13), *see* B -00291
- Dimethylaluminum borohydride, *see* B -00136
- μ -Dimethylaluminum-2,3- η -dicarbaheptaborane, *see* B -00279
- Dimethylaluminum octahydrotriborate(1-), *see* B -00154
- Dimethylamine boron trichloride, *see* B -00115
- ▷ Dimethylamine compd. with bborane(1:1), *see* B -00138
- Dimethylamine difluoroborane, *see* B -00126
- Dimethylamine trichloroborane, *see* B -00115
- B*-(*N,N*-Dimethylamino)-9-BBN, *see* B -00697
- 4-(Dimethylamino)benzaldehyde, compd. with 9-methyl-9-borabicyclo[3.3.1]nonane, *see* B -01078
- Dimethylaminobis(diisopropylamino)borane, B -00940
- Dimethylaminobis(methylthio)borane, B -00271
- 9-Dimethylamino-9-borabicyclo[3.3.1]nonane, B -00697
- (Dimethylamino)borane, B -00129
- (Dimethylamino)borine, *see* B -00129
- Dimethylaminoborinetetracarboxyliron, *see* B -00375
- Dimethylaminoborohydride(1-), *see* B -00134
- 1-(Dimethylamino)borolane, B -00418
- Dimethylaminoboroxole, *see* B -00452
- (Dimethylamino)diethylborane, B -00437
- (Dimethylamino)diethylborine, *see* B -00437
- (Dimethylamino)dimethoxyborane, B -00270
- (Dimethylamino)dimethylborane, B -00267
- Dimethylaminodiphenylborane, B -00891
- Dimethylaminodipropylborane, B -00580
- Dimethylaminodi-1-propynylborane, B -00535
- Dimethylaminomethoxymethylborane, B -00269
- (Dimethylaminomethyl)borane trimethylamine, B -00455
- Dimethylaminomethylborine, *see* B -00195
- [(Dimethylamino)methyl](*N,N*-dimethylmethanamine)dihydroboron, *see* B -00455
- 2-[(Dimethylamino)methyl]ferroceneboronic acid, B -00849
- (3-Dimethylaminopropyl)borane, B -00342
- [3-(Dimethylamino)propyl-*C,N*]dihydroboron, *see* B -00342
- (3-Dimethylaminopropyl)dipropylborane, B -00753
- [3-(Dimethylamino)propyl-*C,N*]dipropylborane, *see* B -00753
- N,N*-Dimethylaniline compd. with borine, *see* B -00541
- 1,1-Dimethyl-1,2-azaborolidine, *see* B -00342
- 3,7-Dimethyl-3-BBN, *see* B -00688
- N,N*-Dimethylbenzenamine compd. with borane(1:1), *see* B -00541
- (*N,N*-Dimethylbenzenamine)trihydroboron, *see* B -00541
- (*N,N'*-Dimethylbenzenecarboximidamidato-*N,N'*)bis(1-methylethyl)boron, *see* B -00960
- (*N,N*-Dimethylbenzenecarboximidamidato-*N,N'*)bis(2-methylpropyl)boron, B -01042
- (*N,N*-Dimethylbenzenecarboximidamidato)diisobutylborane, *see* B -01042
- (*N,N'*-Dimethylbenzenecarboximidamidato-*N,N'*)diisopropylboron, B -00960
- (*N,N'*-Dimethylbenzenecarboximidamidato-*N,N'*)dipropylboron, B -00961
- N,N*-Dimethyl-1,1-bis(methylthio)boranamine, *see* B -00271
- Dimethylbis(1-*H*-pyrazolato-*N'*)borate(1-), B -00537
- Dimethylbis(1-pyrazolyl)borate, *see* B -00537
- 3,5-Dimethyl-1-boraadamantane, *see* B -00733

- 4,4-Dimethyl-1-boraadamantane, *see* B -00734
 4,6-Dimethyl-1-boraadamantane, *see* B -00732
N,N-Dimethyl-9-borabicyclo[3.3.1]nonan-9-amine, *see* B -00697
 3,7-Dimethyl-3-borabicyclo[3.3.1]nonane, B -00688
 1,1-Dimethylboranamine, *see* B -00128
N,N-Dimethylboranamine, *see* B -00129
 Dimethylborane, B -00111
 3,5-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, B -00733
 4,4-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, B -00734
 4,6-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, B -00732
 3,5-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane compd. with 1,1'-oxybis[ethane](1:1), *in* B -00733
 3,6-Dimethylborepane, B -00551
 2-[(3,6-Dimethyl-1-borepanyl)oxy]-*N,N*-dimethylethanamine, *in* B -00551
 Dimethylboric acid, *see* B -00118
 ▶ Dimethylboric anhydride, *see* B -00274
 3,5-Dimethylborinane, B -00497
 Dimethylborine, *see* B -00111
 Dimethylborinic acid, *see* B -00118
 ▶ Dimethylborinic acid anhydride, *see* B -00274
 ▶ Dimethylborinic acid methyl ester, *see* B -00177
N,N-Dimethylborolanamine, *see* B -00418
 1-Dimethylboryl-1,3-cyclopentadiene, *see* B -00481
 2-Dimethylboryl-1,3-cyclopentadiene, *see* B -00480
N-(Dimethylboryl)-1,1-dimethylboranamine, *see* B -00281
 Dimethylborylferrocene, B -00767
 (Dimethylboryl)ferrocene, *see* B -00767
N-(Dimethylboryl)-*N*,1,1-trimethylboranamine, *see* B -00347
 Dimethylbromoborane, *see* B -00093
 Dimethylbromoborane trimethylphosphine complex, *see* B -00344
 Dimethyl butaneboronate, *see* B -00426
 9-(3,3-Dimethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane, B -00915
 3,3-Dimethyl-1-buten-1-yl dibromoborane, *see* B -00390
 9-(2,3-Dimethyl-2-butyl)-9-borabicyclo[3.3.1]nonane, *see* B -00923
 2,3-Dimethyl-2-butylborane, *see* B -00420
 2-(2,3-Dimethyl-2-butyl)-4,8-dimethyl-2-boratabicyclo[3.3.1]nonane, *see* B -01016
 (2,3-Dimethyl-2-butyl)di-1-octenylborane, *see* B -01211
 (2,3-Dimethyl-2-butyl)diocetylborane, *see* B -01214
 9-(3,3-Dimethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane, B -00907
 ▶ Dimethylchloroborane, *see* B -00096
 [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-1,1'-oxybis[ethane]]boron, *in* B -00733
 [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-(pyridine)boron, *in* B -00733
 [(2,4-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-(pyridine)boron, *in* B -00732
 [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-(tetrahydrofuran)boron, *in* B -00733
 [(2,4-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-(tetrahydrofuran)boron, *in* B -00732
 Dimethyl cyclopentaneboronate, *see* B -00500
 Dimethyl cyclopentylboronate, *see* B -00500
 2,3-Dimethyl-2,3-dicarbahexaborane(8), B -00276
 [(2,2-Dimethyl-1,3-dioxolane-4,5-diyl)bis(methylene)]-bis[diphenylphosphine]-*P,P'*[(η^6 -phenyl)-triphenylborato(1-)]rhodium, B -01398
N,N-Dimethyl-1,1-diphenylboranamine, *see* B -00891
 Dimethyldiphenylborate(1-), B -00890
N,N-Dimethyl-1,1-dipropylboranamine, *see* B -00580
N,N-Dimethyl-1,1-di-1-propynylboranamine, *see* B -00535
 Dimethyl ethaneboronate, *see* B -00256
 9-(1,1-Dimethylethyl)-9-borabicyclo[3.3.1]nonane, *see* B -00790
 ▶ Dimethylethylborane, *see* B -00246
 Dimethyl 2-ethylcyclopentylboronate, *see* B -00618
 (1,1-Dimethylethyl)dithioboric acid dimethyl ester, *see* B -00430
 3-(1,1-Dimethylethyl)-7-methyl-3-borabicyclo[3.3.1]nonane, *see* B -00868
 (1,1-Dimethylethyl)trihydroborate(1-), *see* B -00258
 [3-(1,1-Dimethylethyl)-5-(triphenylmethyl)-1,2-benzenediolato(2-)-*O,O'*]diphenylboron, *see* B -01383
 Dimethyl ethynylboronate, *see* B -00225
 Dimethylfluoroborane, *see* B -00099
 7,7-Dimethyl-7-germaundecaborane(14), B -00155
 Dimethyl hexylboronate, *see* B -00574
 Dimethylhydroxyborane, *see* B -00118
 1,*N*-Dimethyl-2-hydroxy-2-phenylethylamine borane, *see* B -00682
 Dimethylindium[η^4 -dodecahydrodecaborato(2-)-dimethylindate(1-)], B -00303
 Dimethyliodoborane, *see* B -00104
B-(3,3-Dimethyl-1-isopropylallyl)-9-BBN, *see* B -01006
N,N-Dimethylmethanamine, compd. with 9-borabicyclo[3.3.1]nonane, *see* B -00749
 ▶ *N,N*-Dimethylmethanamine, compd. with borane(1:1), *see* B -00203
N,N-Dimethylmethanamine compd. with difluoroborane(1:1), *see* B -00194
N,N-Dimethylmethanamine compd. with 1,3,2-dithiaborolane(1:1), *see* B -00343
N,N-Dimethylmethanamine, compd. with fluoroborane(1:1), *see* B -00199
 ▶ *N,N*-Dimethylmethanamine compd. with iodoborane(1:1), *see* B -00200
N,N-Dimethylmethanamine compd. with tribromoborane(1:1), *see* B -00169
N,N-Dimethylmethanamine compd. with tributylborane(1:1), *see* B -00981
N,N-Dimethylmethanamine compd. with trichloroborane(1:1), *see* B -00171
N,N-Dimethylmethanamine, compd. with trifluoroborane(1:1), *see* B -00173
N,N-Dimethylmethanamine, compd. with trimethylborane(1:1), *see* B -00444
N,N-Dimethylmethanamine, compd. with tripropylborane(1:1), *see* B -00837
 (*N,N*-Dimethylmethanamine)difluorohydroboron, *see* B -00194
 ▶ (*N,N*-Dimethylmethanamine)dihydroiodoboron, *see* B -00200
 (*N,N*-Dimethylmethanamine)dimethyl[tetrahydroborato(1-)-*H,H'*]aluminum, *in* B -00136
 (*N,N*-Dimethylmethanamine)[1,2-ethanedithiolato(2-)-*S,S'*]hydroboron, *see* B -00343
 (*N,N*-Dimethylmethanamine)[(ethylamino)carbonyl]dihydroboron, *see* B -00441
 (*N,N*-Dimethylmethanamine)fluorodihydroboron, *see* B -00199
N,N-Dimethylmethanamine methylborane, *in* B -00064
N,N-Dimethylmethanamine phenylborane, *in* B -00378
 (*N,N*-Dimethylmethanamine)trifluoroboron, *see* B -00173
 ▶ (*N,N*-Dimethylmethanamine)trihydroboron, *see* B -00203
 (*N,N*-Dimethylmethanamine)trimethylboron, *see* B -00444
 (*N,N*-Dimethylmethanamine)triphenylboron, *see* B -01171
 (*N,N*-Dimethylmethanamine)tripropylboron, *see* B -00837
 ▶ Dimethyl(methoxy)boron, *see* B -00177
 Dimethyl(methylamino)borane, B -00195
 [*N,N'*-Dimethyl-*N*-(methylamino(carbonyl))-benzenecarboximidamido-*N,N,N'*]dipropylboron, *see* B -01039
 Dimethyl 2-methylcyclopentaneboronate, *see* B -00555
 Dimethyl 2-methylcyclopentylboronate, *see* B -00555
 [2,2-Dimethyl-1-(1-methylethyl)propyl]dihydro(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N*)boron, *see* B -00939
 Dimethyl(methylthio)borane, B -00182
 Dimethyl[octahydrotriborato(1-)]aluminum, B -00154
 3,6-Dimethyl-1-octylborepane, B -01021
 1,7-Dimethylol-1,7-dicarbadodecaborane, *see* B -00290
 1,2-Dimethylol-1,2-dicarbadodecaborane(12), *see* B -00289
 Dimethyl(phenylamino)borane, B -00536
 4,4-Dimethyl-1-phenyl-1-bora-2,5-cyclohexadiene, B -00848
 1,1-Dimethyl-*N*-phenylboranamine, *see* B -00536
N,N'-Dimethyl-1-phenylboranediamine, *see* B -00538
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 Dimethylphosphine, compd. with borane(1:1), *see* B -00139
 (Dimethylphosphine)trihydroboron, *see* B -00139
 (Dimethylphosphino)borane, B -00130
 (Dimethylphosphino)borine, *see* B -00130
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 (2,2-Dimethyl-1-propaniminato)triethylborate(1-), B -00750
 9-(1,2-Dimethylpropyl)-9-borabicyclo[3.3.1]nonane, B -00869
 1,2-Dimethylpropylborane, *see* B -00335
 1,2-Dimethylpropylborane *N,N*-diethylethanamine, *in* B -00335
 (1,2-Dimethylpropyl)dihydroboron, *see* B -00335
 (1,2-Dimethylpropyl)trihydroborate(1-), B -00341
 2,6-Dimethylpyridine, compd. with 9-borabicyclo[3.3.1]nonane(1:1), *see* B -00956
 2,6-Dimethylpyridine, compd. with borane(1:1), *see* B -00484
 (2,6-Dimethylpyridine)trihydroboron, *see* B -00484
 7,7-Dimethyl-7-stannaundecaborane(14), B -00156
 Dimethyl sulfide iodoborane, *see* B -00127

- ▷ Dimethyl(tetrafluoroborato)thallium, B -00103
 Dimethyl[tetrahydroborato(1-)*H,H'*]alane, *see* B -00136
 Dimethyl[tetrahydroborato(1-)*H,H'*]aluminum, B -00136
 Dimethyl[tetrahydroborato(1-)-*H,H'*]gallium, B -00137
 Dimethyl[tetrahydroborato(1-)-*H,H'*](trimethylphosphine)aluminum, *in* B -00136
N,N-Dimethyl-*N',N'',N'''*-tetrakis(1-methylethyl)boranetriamine, *see* B -00940
- ▷ Dimethyl(tetraphenylborato-*B*)thallium, B -01279
 ▷ Dimethylthallium tetrafluoroborate, *see* B -00103
 ▷ Dimethylthallium tetraphenylborate, *see* B -01279
 Dimethylthioborinic acid methyl ester, *see* B -00182
 1,1-Dimethyl-*N*-[2,2,2-trifluoro-1-(trifluoromethyl)-ethylidene]boranamine, B -00317
 4,8-Dimethyl-2-(1,1,2-trimethylpropyl)-2-borabicyclo[3.3.1]nonane, B -01013
 4,8-Dimethyl-2-(1,1,2-trimethylpropyl)-2-boratabicyclo[3.3.1]nonane, B -01016
 Dimethyl(trimethylsilylamino)borane, B -00352
 1,1-Dimethyl-*N*-(trimethylsilyl)boranamine, *see* B -00352
N,N-Dimethylurea, compd. with triphenylborane(1:1), *see* B -01169
(N,N-Dimethylurea-*N'*)triphenylboron, *see* B -01169
 Di-2-norbornylborane, *see* B -00905
 Di-1-octenylthexylborane, *see* B -01211
 Di-1-octenyl(1,1,2-trimethylpropyl)borane, B -01211
 Dioctylthexylborane, *see* B -01214
 Dioctyl(1,1,2-trimethylpropyl)borane, B -01214
 DIOP(η^6 -Tetraphenylborato)rhodium, *see* B -01398
 Dipentylborinic acid butyl ester, *see* B -00935
 Dipentylborinic acid ethyl ester, *see* B -00818
 Dipentylbromoborane, *see* B -00706
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 Dipentyl(ethoxy)borane, *see* B -00818
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(N,N-Diphenylbenzenamine)trihydroboron, *see* B -01069
(N,N-Diphenylbenzenamine)trimethylboron, *see* B -01170
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 Diphenylborinic acid, *see* B -00761
 Diphenylborinic acid 2-aminoethylester, *see* B -00892
 Diphenylborinic acid 3-aminopropyl ester, *see* B -00952
 Diphenylborinic acid butyl ester, *see* B -00991
 Diphenylborinic acid ethyl ester, *see* B -00888
 Diphenylborinic acid isobutyl ester, *see* B -00992
 Diphenylborinic acid methyl ester, *see* B -00847
 Diphenylborinic acid 2-methylpropyl ester, *see* B -00992
 Diphenylboryl acetylacetonate, *see* B -01030
 Diphenylboryl 2-[(*N,N'*-dicyclohexylamidino)amino]pyridinate, *see* B -01325
 Diphenylboryl 2-(*N,N'*-dicyclohexylamidino)aminopyrimidinate, *see* B -01316
 Diphenylboryl 2-[(*N,N'*-dicyclohexylamidino)amino]thiazolate, *see* B -01307
 Diphenylboryl 1,3-diphenyl-1,3-propanedionate, *see* B -01289
 Diphenylboryl-[2-(α -hydroxyethyl)aminopyridinate], *see* B -01119
 Diphenylboryl(*N*-methylbenzimidoyl)benzamidinate, B -01290
N-(Diphenylboryl)-*N*-methyl-1,1-diphenylboranamine, *see* B -01266
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N-Diphenylboryl(phenylcarbamoylaminopyridinate), *see* B -01238
O-Diphenylboryl(phenylcarbamoylaminopyridinate), *see* B -01237
 Diphenylboryl-[1-(phenylcarbamoyl)pyridone-2-iminate], B -01236
(O-Diphenylboryl-2-*o*-tolylcarbamoyl)aminopyridine, *see* B -01265
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 Diphenylethylborane, *see* B -00886
N,N'-Diphenylguanidine, compd. with triphenylborane(1:1), *see* B -01331
N,N'-Diphenylguanidine compd. with tris(2,5-dimethylphenyl)borane(1:1), *see* B -01362
- N,N'*-Diphenylguanidine, compd. with tris(2-ethoxyphenyl)borane(1:1), *see* B -01363
N,N'-Diphenylguanidine, compd. with tris(4-ethoxyphenyl)borane(1:1), *see* B -01364
N,N'-Diphenylguanidine, compd. with tris(2-methoxyphenyl)borane(1:1), *see* B -01348
N,N'-Diphenylguanidine, compd. with tris(4-methoxyphenyl)borane(1:1), *see* B -01349
N,N'-Diphenylguanidine, compd. with tris(2-methylphenyl)borane(1:1), *see* B -01345
N,N'-Diphenylguanidine, compd. with tris(3-methylphenyl)borane(1:1), *see* B -01346
N,N'-Diphenylguanidine, compd. with tris(4-methylphenyl)borane(1:1), *see* B -01347
(N,N'-Diphenylguanidine-*N''*)triphenylboron, B -01331
(N,N'-Diphenylguanidine-*N''*)tris(2-ethoxyphenyl)boron, B -01363
(N,N'-Diphenylguanidine-*N''*)tris(4-ethoxyphenyl)boron, B -01364
(N,N'-Diphenylguanidine-*N''*)tris(2-methoxyphenyl)boron, B -01348
(N,N'-Diphenylguanidine-*N''*)tris(4-methoxyphenyl)boron, B -01349
(N,N'-Diphenylguanidine-*N''*)tris(2-methylphenyl)boron, B -01345
(N,N'-Diphenylguanidine-*N''*)tris(3-methylphenyl)boron, B -01346
(N,N'-Diphenylguanidine-*N''*)tris(4-methylphenyl)boron, B -01347
 Diphenyl[2-(2-hydroxy-4-methoxyphenylazo)phenoxy]borane, B -01264
 Diphenyl[2-(2-hydroxy-4-methylphenylazo)phenoxy]borane, B -01263
 Diphenyl[4-(phenylazo)-1,3-benzenediolate]boron, *see* B -01230
 Diphenyl[1-(phenylazo)-2-naphthalenaminato]boron, *see* B -01298
 Diphenyl[1-(phenylazo)-2-naphthalenolato]boron, *see* B -01297
 Diphenyl[1-(phenylazo)-2-naphthylamino]borane, B -01298
 Diphenyl[1-(phenylazo)-2-naphthylloxy]borane, B -01297
 Diphenyl phenylboronate, *see* B -01059
 Diphenyl(1-phenyl-1,3-butanedionate-*O,O'*)boron, *see* B -01188
 Diphenyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N'',O*)boron, B -01237
 Diphenyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N,N''*)boron, B -01238
 3-(1,3-Diphenyl-1,3-propanedionate)-3-borabicyclo[3.3.1]nonane, B -01313
- ▷ (1,3-Diphenyl-1,3-propanedionate-*O,O'*)difluoroboron, B -00943
 (1,3-Diphenyl-1,3-propanedionate-*O,O'*)diphenylboron, B -01289
 (1,3-Diphenyl-1,3-propanedionate-*O,O'*)[(5-phenyl-1,3-cyclohexanedyl)bis(methylene)]boron, *see* B -01313
 Diphenyl[1-(2-pyridinylamino)ethanolato]boron, B -01119
 Diphenyl[1-(2-pyridinylazo)-2-naphthalenolato]boron, B -01288
 Diphenyl[1-(pyridyl-2-azo)-2-naphthylloxy]borane, *see* B -01288
B,B-Diphenyltetrahydroboroxazine, *see* B -00952
 Diphenylthioborinic acid butyl ester, *see* B -00993
 Diphenyl[trifluoro-1-(trifluoromethyl)ethylidene]amino]borane, *see* B -00942
 1,1-Diphenyl-*N*-[2,2,2-trifluoro-1-(trifluoromethyl)-ethylidene]boranamine, B -00942
 Di-3-pinanylborane, *see* B -01151
 Di-2-propenylhexylborane, *see* B -00792
 Di-2-propenylpropylborane, B -00604
 1,1-Dipropylboranamine, *see* B -00435
 Dipropylborinic acid butyl ester, *see* B -00711
 Dipropylborinic acid ethyl ester, *see* B -00572
 Dipropylborinic acid hexyl ester, *see* B -00819
 Dipropylborinic acid methyl ester, *see* B -00505
 Dipropylborinic acid propyl ester, *see* B -00627
 Dipropylboryl acetylacetonate, *see* B -00741
 Dipropylboryl 2-[(*N,N'*-dicyclohexylamidino)amino]pyridinate, *see* B -01252
 Dipropylboryl-[2-(α -hydroxybutyl)aminopyridinate], *see* B -00967
 Dipropylboryl-(*N*-methylcarbamoyl)-*N,N'*-dimethylbenzamidinate, B -01039
 Dipropylboryl(*N*-propylbenzimidoyl)benzamidinate, *see* B -01174
- ▷ Dipropylchloroborane, *see* B -00414
 Dipropyl(3-methyl-2-butenyl)borane, *see* B -00744
 Dipropyl(2-methyl-2-propenyl)borane, *see* B -00702

- Dipropyl(methylthio)borane, B -00507
 Dipropyl-2-propenylborane, *see* B -00616
 Dipropyl[1-(2-pyridinylamino)-1-butanolato]boron, B -00967
 Dipropylthioboronic acid butyl ester, *see* B -00716
 Dipropylthioboronic acid methyl ester, *see* B -00507
 Disiamylborane, *see* B -00709
 Disiamyl(1-bromo-1-hexenyl)borane, *see* B -01017
 Disiamyl-1-octylborane, *see* B -01105
 Disiamylstyrylborane, *see* B -01080
 1,2-Disodio-1,2-dicarbadodecaborane(12), *see* B -00147
 Disodium-1,2-dicarbadodecaborate(2-), *see* B -00147
 Dithexylborane, *see* B -00811
 1,3,2-Dithiabborolane trimethylamine, B -00343
 6,8-Dithianonaborane(9), B -00033
 Di-2-thienylboronic acid, *see* B -00515
 Dithiobenzeneboronic acid diethyl ester, *see* B -00666
 Dithiobenzeneboronic acid dimethyl ester, *see* B -00532
 Dithiomethaneboronic acid dimethyl ester, *see* B -00183
 Di-*p*-tolylboronic acid, *see* B -00889
 Dodecahydro-9*b*-boraphenylene, *see* B -00783
 Dodecahydro-9*b*-borataphenylene, B -00786
 [(5,6,7,8,9,10- η)Dodecahydrododecaborato(2-)]-bis(triethylphosphine)platinum, B -00842
 [η^4 -Dodecahydrododecaborato(2-)]dimethylmethyltriphenylphosphoniumthallate(1-), *in* B -00157
 [η^4 -Dodecahydrododecaborato(2-)]dimethylthallate(1-), B -00157
 [η^4 -Dodecahydrododecaborato(2-)]methylindium, B -00077
 ▶ Dodecahydro-7,8-dicarbaundecaborato(1-)- H^9, H^{10} -diethylaluminum, B -00459
 ▶ Dodecahydro-7,8-dicarbaundecaborato(1-)- H^9, H^{10} dimethylaluminum, B -00291
 [η^3 -Dodecahydrooctaborato(2-)]bis(triethylphosphine)platinum, B -00841
 ▶ Dodecyl borate, *see* B -01359
 Dodecyltrimethylammonium tetraphenylborate, B -01379
 ▶ Ethanamine compd. with trifluoroborane, *see* B -00116
 ▶ (Ethanamine)trifluoroboron, *see* B -00116
 Ethaneboronic acid, *see* B -00120
 Ethaneboronic acid dibutyl ester, *see* B -00714
 Ethaneboronic acid di-*tert*-butyl ester, *see* B -00715
 Ethaneboronic acid diethyl ester, *see* B -00427
 Ethaneboronic acid dimethyl ester, *see* B -00256
 1,2-Ethanediamine, compd. with bis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)borane(1:2), *see* B -01385
 [μ -(1,2-Ethanediamine-*N,N'*)]dihydrotetrakis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)diboron, *see* B -01385
 1,2-Ethanediybis[dichloroborane], *see* B -00083
 [1,2-Ethanediybis(diphenylphosphine)-*P,P'*][(η^6 -phenyl)-triphenylborato(1-)]rhodium, B -01396
 Ethanol compd. with trifluoroborane(1:1), *see* B -00102
 (Ethanol)trifluoroboron, *see* B -00102
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 Ethenylborane, *see* B -00084
 Ethenylboronic acid, *see* B -00090
 Ethenyldifluoroborane, *see* B -00081
 Ethenyldihydroxyborane, *see* B -00090
 (2-Ethenylphenyl)boronic acid, *see* B -00521
 (3-Ethenylphenyl)boronic acid, *see* B -00522
 (4-Ethenylphenyl)boronic acid, *see* B -00523
 (2-Ethenylphenyl)dihydroxyborane, B -00521
 (3-Ethenylphenyl)dihydroxyborane, B -00522
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 (Ethoxycarbonyl)borane trimethylamine, B -00438
 (Ethoxycarbonyl)borane triphenylphosphine, B -01167
 4-(Ethoxycarbonyl)-3-diethylaminophenylammonium tetraphenylborate, B -01365
 (Ethoxycarbonyl)dihydro(triphenylphosphine)boron, *see* B -01167
 (Ethoxycarbonyl)(*N,N*-dimethylmethanamine)dihydroboron, *see* B -00438
 Ethoxydiethylborane, B -00425
 2-Ethoxy-*N,N*-dimethylethanamine compd. with borane(1:1), *see* B -00445
 (2-Ethoxy-*N,N*-dimethylethanamine-*N*)trihydroboron, *see* B -00445
 Ethoxydipentylborane, B -00818
 Ethoxydiphenylborane, B -00888
 Ethoxydipropylborane, B -00572
 (Ethoxyethynyl)tripentylboranate, *see* B -01133
 (Ethoxyethynyl)tripentylborate(1-), B -01133
 (Ethoxyethynyl)tripropylboranate, *see* B -00873
 (Ethoxyethynyl)tripropylborate(1-), B -00873
B-Ethyl-9-*BBN*, *see* B -00689
 Ethyl alcohol compd. with boron fluoride(1:1), *see* B -00102
 ▶ 3-Ethyl-3-alumino-1,2-dicarba-*closo*-dodecaborane(12), *see* B -00285
 ▶ 3-Ethyl-3-alumino-1,7-dicarba-*closo*-dodecaborane(12), *see* B -00286
 ▶ Ethylamine compd. with boron fluoride (BF₃)(1:1), *see* B -00116
 [(Ethylamino)carbonyl]dihydro(triphenylphosphine)boron, *see* B -01168
 [5-(Ethylamino)-2-[(2-hydroxy-5-methylphenyl)azo]-4-methylphenolato(2-)]phenylboron, B -01193
 ▶ Ethylaminoboron trifluoride, *see* B -00116
 Ethylbis-*tert*-butoxyborane, *see* B -00715
 Ethylbis(2,4,6-trimethylphenyl)borane, B -01142
 9-Ethyl-9-borabicyclo[3.3.1]nonane, B -00689
 Ethylborane, B -00112
N-Ethylboranecarboxamide, compd. with *N,N*-dimethylmethanamine(1:1), *see* B -00441
N-Ethylboranecarboxamide compd. with *N,N,N',N'*-tetramethyl-1,2-ethanediamine(2:1), *see* B -00840
 Ethylborane diethylphosphine, *in* B -00112
 Ethylborane dipropylphosphine, *in* B -00112
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 ▶ Ethyl borate, *see* B -00429
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 ▶ Ethylboron dichloride, *see* B -00086
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 Ethylboronic acid dibutyl ester, *see* B -00714
 Ethylboronic acid di-*tert*-butyl ester, *see* B -00715
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 9-(1-Ethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane, B -00916
 1-Ethyl-2-butenyldiethylborane, *see* B -00701
 9-(1-Ethylbutyl)-9-borabicyclo[3.3.1]nonane, *see* B -00921
 (1-Ethylbutyl)dicyclohexylborane, *see* B -01098
N-Ethylcarbamoyleborane trimethylamine, B -00441
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 (2-Ethylcyclopentyl)dimethoxyborane, B -00618
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 ▶ Ethyldichloroborane, *see* B -00086
 Ethyldiethoxyborane, *see* B -00427
 Ethyldifluoroborane, B -00088
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 Ethyldihydroxyborane, B -00120
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 Ethyldimesitylborane, *see* B -01142
 Ethyldimethoxyborane, B -00256
 ▶ Ethyldimethylborane, B -00246
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N-Ethylethanamine, compd. with borane(1:1), *see* B -00283
 (*N*-Ethylethanamine)trihydroboron, *see* B -00283
 Ethyl ether compd. with boron chloride(BCl₃)(1:1), *see* B -00241
 ▶ Ethyl ether compd. with boron fluoride(BF₃)(1:1), *see* B -00243
 [4-Ethyl-2-[3-ethyl-5-methoxy-4-methyl-2*H*-pyrrol-2-ylidene)methyl]-3,5-dimethyl-1*H*-pyrrolato-*N*¹,*N*²]difluoroboron, B -01034
 3-Ethyl-3-gallo-1,2-dicarbadodecaborane(12), *see* B -00287
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 2-Ethyl-4-methylimidazolium tetraphenylborate, B -01322

- [α -Ethyl- α -[(*N*-methyl-*S*-phenylsulfonimidoyl)methyl]-benzenemethanol-*N*]trihydroboron, B -01035
 α -Ethyl- α -[(*N*-methyl-*S*-phenylsulfonimidoyl)methyl]-benzenemethanol, compd. with borane(1:1), *see* B -01035
 2-Ethylpyridine, compd. with 9-borabicyclo[3.3.1]nonane(1:1), *see* B -00957
 (Ethylthio)bis(2,4,6-trimethylphenyl)borane, B -01144
 (Ethylthio)dimesitylborane, *see* B -01144
 ▶ Ethyl(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)-aluminum, B -00285
 ▶ Ethyl(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)-aluminum, B -00286
 Ethyl[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]gallium, B -00287
 Ethyl[(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)]gallium, B -00288
 Ethyneboronic acid dimethyl ester, *see* B -00225
B-Ethynyl-9-BBN, *see* B -00659
 9-Ethynyl-9-borabicyclo[3.3.1]nonane, B -00659
 Ethynylborane, B -00080
 Ethynylboronic acid dimethyl ester, *see* B -00225
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 Ethynylmethoxyborane, B -00225
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 1,1'-Ferrocenediboronic acid, B -00652
 Ferroceniumyltriphenylborate(1-), B -01299
 Ferrocenylboronic acid, *see* B -00649
 Ferrocenyldichloroborane, *see* B -00640
 Ferrocenyldimethylborane, *see* B -00767
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 Fluorobis(2,4,6-trimethylphenyl)borane, B -01073
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 Fluoroborine, *see* B -00002
 ▶ Fluorodibutylborane, *see* B -00564
 Fluorodihydroboron, *see* B -00002
 Fluorodihydro(dimethylamine)boron, *in* B -00002
 Fluorodihydro(methylamine)boron, *in* B -00002
 Fluorodihydro(trimethylamine)boron, *in* B -00002
 Fluorodihydro(trimethylphosphine)boron, *in* B -00002
 Fluorodihydro(triphenylphosphine)boron, *in* B -00002
 Fluorodimesitylborane, *see* B -01073
 Fluorodimesitylborine, *see* B -01073
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 Fluorodimethoxyborine, *see* B -00100
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 Fluorodimethylborine, *see* B -00099
 1-Fluoro-*N,N,N',N'*-tetramethylboranediimine, *see* B -00266
 Fluorotris(pentafluorophenyl)borate(1-), B -01048
 2-Formyl-3-furanboronic acid, *see* B -00310
 3-Formyl-2-furanboronic acid, *see* B -00311
 4-Formyl-3-furanboronic acid, *see* B -00313
 (2-Formyl-3-furanyl)boronic acid, *see* B -00310
 (3-Formyl-2-furanyl)boronic acid, *see* B -00311
 (4-Formyl-2-furanyl)boronic acid, *see* B -00312
 (4-Formyl-3-furanyl)boronic acid, *see* B -00313
 (5-Formyl-2-furanyl)boronic acid, *see* B -00314
 (5-Formyl-3-furanyl)boronic acid, *see* B -00315
 (2-Formyl-3-furanyl)dihydroxyborane, B -00310
 (3-Formyl-2-furanyl)dihydroxyborane, B -00311
 (4-Formyl-2-furanyl)dihydroxyborane, B -00312
 (4-Formyl-3-furanyl)dihydroxyborane, B -00313
 (5-Formyl-2-furanyl)dihydroxyborane, B -00314
 (5-Formyl-3-furanyl)dihydroxyborane, B -00315
 (2-Formylphenyl)boronic acid, *see* B -00464
 (2-Formylphenyl)dihydroxyborane, B -00464
 2-Furanboronic acid, *see* B -00218
 3-Furanboronic acid, *see* B -00219
 (2-Furanyl)boronic acid, *see* B -00218
 (3-Furanyl)boronic acid, *see* B -00219
 2-Furanyldihydroxyborane, B -00218
 3-Furanyldihydroxyborane, B -00219
 2-Furanyltrihexylborate(1-), B -01210
 2-Furanyltripropylborate(1-), B -00867
 2-Furanyltris(1-methylpropyl)borate(1-), B -01009
 2-Furanyltris(2-methylpropyl)borate(1-), B -01010
 2-Furyldihydroxyborane, *see* B -00218
 3-Furyldihydroxyborane, *see* B -00219
 2-Furyltri-*sec*-butylborate, *see* B -01009
 2-Furyltrihexylborate, *see* B -01210
 2-Furyltrisobutylborate, *see* B -01010
 2-Furyltripropylborate, *see* B -00867
 1-Germa-2,3-dicarba-*clos*-dodecacarborane, *see* B -00148
 D-Gluconic acid cyclic 4,5-ester with boric acid (H₃BO₃), *see* B -00395
 Glycerol borate palmitate, *see* B -01212
 Glycerol monooleoylglycerol borate, *see* B -01255
 Glycerol monostearoylglycerol borate, *see* B -01256
 Glyceryl borate (2:1) monooleate, *see* B -01255
 Glyceryl borate (2:1) monostearate, *see* B -01256
 Guanidine compd. with triphenylborane(1:1), *see* B -01120
 (Guanidine-*N''*)triphenylboron, *see* B -01120
 Guanidinium bis(2,3-dibromo-1,4-butanediolato)borate, *in* B -00533
 Guanidinium bis(3,3',5,5'-tetrabromobiphenyl-2,2'-diolato)borate, *in* B -01227
 Guanidinium tetraphenylborate, B -01268
 Hafnocene bis(borohydride), *see* B -00683
 [(2,6- η)Heptahydro-4,5-dicarbahexaborato(1-)]dimethylaluminum, B -00279
 1-Heptaneboronic acid, *see* B -00506
 1,2,3,4,5,6,7-Heptaphenyl-7-borabicyclo[2.2.1]hepta-2,5-diene, B -01392
 Heptylboronic acid, *see* B -00506
 Heptyldihydroxyborane, B -00506
 1-Heptynyltrihexylborate(1-), B -01274
 1-Heptynyltriphenylborate(1-), B -01267
 Hexaborane(10), B -00031
 Hexaborane(12), B -00032
 Hexaborane(10) compd. with trimethylphosphine(1:2), B -00461
 Hexacarbonylbis[μ -[(1,2,3,4,5- η :1,2,3,4,5- η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole]](iron)dimanganese, B -01202
 1,2,3,5-(Hexacarbonyldiiron)-C₂B₃H₅, *see* B -00513
 Hexacarbonyl[μ -[(1,4,5- η :2,3,4,5- η)-pentahydro-2,4-dicarbapentaborato(2-)]diiron, B -00513
 Hexaethylboranetriamine, *see* B -00838
 Hexaethylborazine, B -00839
 Hexaethylborazole, *see* B -00839
 Hexafluoroisopropylideniminobis(dimethylamino)borane, B -00483
 Hexafluoro[μ -(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N,N'*)]diboron, *see* B -00439
 [(2,3,4,5,6- η)-Hexahydro-2,3-dicarbahexaborato(2-)]methylgallium, B -00191
 [(2,3,4,5,6- η)-Hexahydro-2,3-dicarbahexaborato(2-)]methylindium, B -00192
 Hexahydrohexamethyl-*s*-triazatriborine, *see* B -00449
 Hexahydro[μ -(methylhydrazine-*N:N'*)]diboron, *see* B -00076
 Hexahydro[μ -(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N:N'*)]diboron, *see* B -00460
 Hexahydro-*s*-triazatriborine, *see* B -00020
 Hexahydro-1,3,5-trimethyl-1,3,5-triazatriborine, *see* B -00209
 Hexahydro-1,3,5-tripropyl-1,3,5-triazatriborine, *see* B -00637
 3,1,2-(η^6 -Hexamethylbenzene)-FeC₂B₉H₁₁, *see* B -00929
 [(1,2,3,4,5,6- η)-Hexamethylbenzene][(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron, B -00929
 Hexamethylboranetriamine, *see* B -00447
 Hexamethylborazine, B -00449
 Hexamethylborazole, *see* B -00449
 Hexamethylboroxintriimine, *see* B -00452
 (*N,N'*-Hexamethylenyl-1,6)-di[7-methoxymethyl-3-borabicyclo[3.3.1]non-6-en-3-yl-(*N*-carbamoylpyridon-2-imine)], B -01373
 Hexamethylphosphorous triamide borine, *see* B -00458
 Hexamethylphosphorous triamide compd. with borane(1:1), *see* B -00458
 (Hexamethylphosphorous triamide)trihydroboron, *see* B -00458
 Hexamethyltriborinetriamine, *see* B -00449

- 1-Hexaneboronic acid, *see* B -00428
 1-Hexaneboronic acid dibutyl ester, *see* B -00937
 1-Hexaneboronic acid dimethyl ester, *see* B -00574
 $[\mu\text{-}[[N,N'\text{-}1,6\text{-Hexanediy]bis[2-imino-1(2H)-pyridinecarboxamidato]](2-)]bis[[5-(methoxymethyl)-4-cyclohexene-1,3-diyl]bis(methylene)]diboron$, *see* B -01373
 1-Hexanol compd. with trifluoroborane(1:1), *see* B -00417
 ▶ 1-Hexanol triester with boric acid (H_3BO_3), *see* B -01110
 1-Hexene-1-boronic acid, *see* B -00409
 B-(1-Hexenyl)-9-BBN, *see* B -00917
 B-(4-Hexenyl)-9-BBN, *see* B -00918
 B-(3-Hexen-3-yl)-9-BBN, *see* B -00916
 9-(1-Hexenyl)-9-borabicyclo[3.3.1]nonane, B -00917
 9-(4-Hexenyl)-9-borabicyclo[3.3.1]nonane, B -00918
 9-(3-Hexen-3-yl)-9-borabicyclo[3.3.1]nonane, *see* B -00916
 1-Hexenylboronic acid, *see* B -00409
 1-Hexenyldibromoborane, *see* B -00392
 3-Hexen-3-yldibromoborane, *see* B -00391
 1-Hexenyldicyclohexylborane, *see* B -01090
 1-Hexenyldihydroxyborane, B -00409
 1-Hexenyldisiamylborane, *see* B -01019
 1-Hexenyltrimethylborate(1-), B -00619
 Hexyl alcohol compd. with boron fluoride(BF_3)(1:1), *see* B -00417
 B-Hexyl-9-BBN, *see* B -00922
 B-(3-Hexyl)-9-BBN, *see* B -00921
 9-Hexyl-9-borabicyclo[3.3.1]nonane, B -00922
 9-(3-Hexyl)-9-borabicyclo[3.3.1]nonane, B -00921
 ▶ Hexyl borate, *see* B -01110
 Hexylboronic acid, *see* B -00428
 Hexylboronic acid dibutyl ester, *see* B -00937
 Hexylboronic acid dimethyl ester, *see* B -00574
 ▶ 1-Hexyl-*o*-carborane, *see* B -00585
 Hexyldiallylborane, *see* B -00792
 Hexyldibromoborane, *see* B -00405
 3-Hexyldibromoborane, *see* B -00404
 ▶ 1-Hexyl-1,2-dicarbadodecaborane(12), B -00585
 Hexyldicyclohexylborane, *see* B -01099
 Hexyldifluoroborane, *see* B -00407
 Hexyldihydroxyborane, B -00428
 Hexyldimethoxyborane, B -00574
 Hexyldi-2-propenylborane, B -00792
 (Hexyloxy)dipropylborane, B -00819
 3-(Hexyloxy)-7-pentyl-3-borabicyclo[3.3.1]non-6-ene, B -01130
 Hexylthio(diethyl)borane, *see* B -00717
 3-(Hexylthio)-7-pentyl-3-borabicyclo[3.3.1]non-6-ene, B -01131
 B-(1-Hexynyl)-9-BBN, *see* B -00908
 9-(1-Hexynyl)-9-borabicyclo[3.3.1]nonane, B -00908
 Hexynyltricyclohexylborate, *see* B -01254
 1-Hexynyltricyclopentylborate, *see* B -01182
 1-Hexynyltriocetylborate(1-), B -01328
 1-Hexynyltriphenylborate(1-), B -01243
 ▶ Hydrazine bis(borane), B -00014
 ▶ Hydrazine compd. with borane, *see* B -00013
 ▶ Hydrazine compd. with borane(1:2), *see* B -00014
 ▶ $[\mu\text{-}(\text{Hydrazine-}N:N')]\text{hexahydrodiboron}$, *see* B -00014
 ▶ (Hydrazine-*N*)trihydroboron, *see* B -00013
 Hydridobis(tricyclohexylphosphine)nickel tetrahydroborate, *see* B -01356
 Hydridoborohydridobis(tricyclohexylphosphine)palladium, *see* B -01357
 Hydrodiiodo[thiobis(methane)]boron, *in* B -00004
 Hydrodiphenyl(2-pyridinamine-*N'*)boron, *see* B -01029
 Hydrodiphenyl(pyridine)boron, *see* B -01027
 Hydrogenbis[1,2-benzenediolato(2-)-*O,O'*]borate(1-) compd. with *N,N'*-bis(2-methylphenyl)guanidine(1:1), *in* B -00757
 Hydrogen bis[2,3-dibromo-1,4-butanediolato(2-)-*O,O'*]borate(1-) compd. with guanidine(1:1), *in* B -00533
 Hydrogen bis[2,3-dihydroxypropyl hexadecanoato(2-)]borate(1-), *in* B -01374
 Hydrogen bis[2,3-dihydroxypropyl octadecanoato(2-)]borate(1-), *in* B -01386
 Hydrogen bis[3-mercapto-1,2-propanediolato(2-)-*O,O'*]borate(1-) compd. with 1-octadecanamine(1:1), *in* B -00399
 Hydrogen [bis[3,3'-oxybis[1,2-propanediolato]](2-)-*O^1,O^2*]borate(1-), B -00807
 Hydrogen bis[1,2,3-propanetriolato(2-)-*O^1,O^2*]borate(1-), B -00410
 Hydrogenbis[pyrocatecholato(2-)]borate(1-) compd. with 1,3-di-*o*-tolylguanidine, *in* B -00757
 Hydrogen bis[3,3',5,5'-tetrabromo[1,1'-biphenyl]-2,2'-diolato(2-)-*O,O'*]borate(1-) compd. with guanidine(1:1), *in* B -01227
 Hydrogen dihydroxy[1,2,3-propanetriolato(2-)-*O^1,O^2*]borate(1-), B -00181
 Hydrogen[2,3-dihydroxypropyl hexadecanoato(2-)]borate(1-), B -01212
 Hydrogen [2,3-dihydroxypropyl octadecanoato(2-)]borate(1-), B -01256
 Hydrogen [2,3-dihydroxypropyl 9-octadecenoato(2-)]borate(1-), B -01255
 Hydrogen tetraphenylborate(1-), compd. with 2-(diethylamino)ethyl 4-aminobenzoate(1:1), *see* B -01365
 Hydrogen tetraphenylborate(1-) compd. with *N,N*-diethylethanamine(1:1), *see* B -01324
 Hydrogen tetraphenylborate(1-), compd. with *N,N,N'*-diethyl-2-methyl-1,4-benzenediamine(1:1), *see* B -01351
 Hydrogen tetraphenylborate(1-), compd. with 2-ethyl-4-methyl-1*H*-imidazole(1:1), *see* B -01322
 Hydrogen tetraphenylborate(1-) compd. with guanidine(1:1), *see* B -01268
 Hydrogen tetraphenylborate(1-), compd. with 4-methylmorpholine(1:1), *see* B -01314
 Hydrogen tetraphenylborate(1-) compd. with morpholine(1:1), *see* B -01303
 Hydrogen tetraphenylborate(1-) compd. with pyridine(1:1), *see* B -01312
 Hydromethylbis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)borate(1-), *see* B -01184
 Hydromethyl-3-pinanylborate(1-), *see* B -01184
 9-Hydro-9-(3-pinanyl)-9-boratabicyclo[3.3.1]nonane, *in* B -01082
 Hydro[tetrahydroborato(1-)-*H,H'*]bis(tricyclohexylphosphine)nickel, B -01356
 Hydro[tetrahydroborato(1-)-*H,H'*]bis(tricyclohexylphosphine)palladium, B -01357
 Hydrotriisopropoxyborate, *see* B -00634
 Hydrotrimethoxyborate(1-), B -00196
 Hydrotriphenylborate(1-), B -01065
 Hydrotris(3,5-dimethyl-1-pyrazolyl)borate, *see* B -00955
 [Hydrotris(3,5-dimethylpyrazolyl)borato]bis(trifluoroacetato)aquorhodium, *see* B -01123
 [Hydrotris(3,5-dimethylpyrazolyl)borato]bis(trifluoroacetato)aquoiridium, *see* B -01122
 Hydrotris(3,5-dimethylpyrazolyl)borato]dichloro(methanol)rhodium, *see* B -01000
 Hydrotris(2-methoxyethanolato-*O'*-borate)(1-), *see* B -00635
 Hydrotris(2-methoxyethoxy)borate, B -00635
 Hydrotris(2-methylcyclopentyl)borate(1-), B -01096
 Hydrotris(1-methylethyl)borate(1-), *see* B -00632
 Hydrotris(1-methylpropyl)borate(1-), B -00828
 Hydrotris(2-methylpropyl)borate(1-), B -00829
 Hydrotris(2-propanolato)borate(1-), *see* B -00634
 Hydrotris(1*H*-pyrazolato-*N*¹)borate(1-), B -00589
 [Hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*^{2'},*N*^{2''}](η^5 -pentamethylcyclopentadienyl)rhodium(1+), B -01125
 (Hydrotrispyrazolylborato)dichloro(acetonitrile)rhodium, *see* B -00724
 3-Hydroxy-3*H*-3-benzoborepin, B -00642
 Hydroxybis(4-methylphenyl)borane, B -00889
 Hydroxybis(2-thienyl)borane, B -00515
 Hydroxybis(2,4,6-trimethylphenyl)borane, B -01075
 Hydroxyborane, B -00007
 Hydroxydiethylborane, *see* B -00253
 Hydroxydimesitylborane, *see* B -01075
 Hydroxydimethylborane, B -00118
 Hydroxydiphenylborane, B -00761
 Hydroxydiphenylborane ethanalamine, *see* B -00892
 B-Hydroxy-9-*BBN* ethanalamine ester, *see* B -00698
 [4-Hydroxy-3-[(2-hydroxy-1-naphthalenyl)azo]benzenesulfonamidato(2-)]phenylboron, B -01186
 Hydroxylamine, compd. with triphenylborane(1:1), *see* B -01070
 (Hydroxylamine-*N*)triphenylboron, *see* B -01070
 [2-[(2-Hydroxy-5-methoxyphenyl)azo]benzoato(2-)]phenylboron, B -01136

- [2-[(2-Hydroxy-5-methylphenyl)azo]benzoato(2-)]phenylboron, B -01135
- [2-[(2-Hydroxy-1-naphthalenyl)azo]benzoato(2-)]phenylboron, B -01216
- Hydroxy[2-[[1-(phenylamino)ethylidene]amino]phenyl]propylboron, B -01032
- [4-[(2-Hydroxyphenyl)azo]-1,3-benzenediolato(2-)]phenylboron, B -01050
- [2-[(2-Hydroxyphenyl)azo]-4-methoxyphenolato]diphenylboron, *see* B -01264
- [2-[(2-Hydroxyphenyl)azo]-4-methylphenolato]diphenylboron, *see* B -01263
- [2-[(2-Hydroxyphenyl)azo]-4-methylphenolato(2-)]phenylboron, B -01116
- [1-[(2-Hydroxyphenyl)azo]-2-naphthalenolato(2-)]phenylboron, B -01185
- [5-Hydroxy-2-(phenylazo)phenoxy]diphenylborane, B -01230
- Hydroxy[2-[[phenyl(phenylamino)methylene]amino]phenyl]propylboron, B -01194
- 1-*H*-Imidazole compd. with trifluoroborane, *see* B -00158
- Iminobis[dimethylborane], *see* B -00281
- [[2,2'-Iminobis(ethanolato)](2-)-*N,O,O'*]phenylboron, *see* B -00655
- [[2,2'-Iminobis(ethanolato)](2-)-*N,O,O'*-tricyclo[3.3.1.1^{3,7}]dec-1-ylboron, *see* B -00911
- [*N*-(1-Iminoethyl)ethanimidamido-*N',N''*]dipropylboron, B -00708
- 2-Imino-1-methyl-1,2-dihydropyridine tripropylborane, *see* B -00971
- [*N*-(Iminophenylmethyl)-*N'*-methylbenzenecarboximidamido-*N',N''*]diphenylboron, *see* B -01290
- [*N*-(Iminophenylmethyl)-*N'*-propylbenzenecarboximidamido-*N',N''*]dipropylboron, B -01174
- (2-Imino-*N*-phenyl-1(2*H*)-pyridinecarboxamidato-*N^{N1},N²*)diphenylboron, *see* B -01236
- (2-Imino-*N*-phenyl-1(2*H*)-pyridinecarboxamidato-*N^{N1},N²*)[[5-(methoxymethyl)-4-cyclohexene-1,3-diyl]bis[methylene]]boron, *see* B -01199
- B*-Iodo-9-BBN dimethyl sulfide, *see* B -00696
- B*-Iodo-9-BBN-methyl sulfide, *see* B -00696
- 9-Iodo-9-borabicyclo[3.3.1]nonane, compd. with thiobis[methane], *see* B -00696
- 9-Iodo-9-borabicyclo[3.3.1]nonane dimethyl sulfide, B -00696
- Iodoborane, B -00005
- ▷ Iodoborane compd. with trimethylamine(1:1), *see* B -00200
- Iodoborane complex with thiobis[methane], *see* B -00127
- Iodoborane complex with trimethylphosphine, *see* B -00201
- Iodoborane dimethyl sulfide, B -00127
- Iodoborane methyl sulfide, *see* B -00127
- Iodoborane γ -picoline, *in* B -00005
- ▷ Iodoborane trimethylamine, B -00200
- Iodoborane trimethylphosphine, B -00201
- Iodoborane triphenylphosphine, B -01066
- 4-Iodobutaneboronic acid, *see* B -00244
- (4-Iodobutyl)boronic acid, *see* B -00244
- Iododimethylborane, B -00104
- Iodomethaneboronic acid dibutyl ester, *see* B -00621
- (Iodomethyl)boronic acid dibutyl ester, *see* B -00621
- Isobutylamine compd. with triphenylborane(1:1), *see* B -01198
- B*-Isobutyl-9-BBN, *see* B -00794
- 9-Isobutyl-9-borabicyclo[3.3.1]nonane, *see* B -00794
- ▷ Isobutyl borate, *see* B -00823
- Isobutyl diphenylborinate, *see* B -00992
- Isobutyloxydiphenylborane, *see* B -00992
- Isononaborane(15), B -00040
- B*-Isopinocampheyl-9-BBN, *see* B -01083
- B*-Isopinocampheyl-9-borabicyclo[3.3.1]nonyl hydride, *in* B -01082
- Isopinocampheylborane, *see* B -00690
- 9-Isopinocampheyl-9-borabicyclo[3.3.1]nonane, B -01082
- Isopropoxybis(2,4,6-trimethylphenyl)borane, B -01176
- Isopropoxydimethylborane, *see* B -01176
- (Isopropylamino)bis(2,4,6-trimethylphenyl)borane, B -01177
- Isopropylaminodimethylborane, *see* B -01177
- Isopropylbis(dimethylamino)borane, B -00511
- 9-Isopropyl-9-borabicyclo[3.3.1]nonane, B -00737
- ▷ Isopropyl borate, *see* B -00628
- ▷ K-Selectride, *in* B -00828
- Lithium bis(ethylenedioxyboryl)methide, *see* B -00326
- ▷ Lithium borohydride, *in* B -00008
- Lithium 1,5,9-cyclododecanetriylhydroborate(1-), *in* B -00786
- ▷ Lithium tetrahydroborate, *in* B -00008
- Lithium tetraphenylborate(1-), B -01234
- ▷ Lithium triethylborohydride, *in* B -00434
- ▷ Lithium triethylhydroborate, *in* B -00434
- Lithium triisooamylborohydride, *in* B -00980
- ▷ L-Selectride, *in* B -00828
- 2,6-Lutidine, compd. with borane(1:1), *see* B -00484
- MBBN, *see* B -00607
- Mesityldichloroborane, *see* B -00590
- 3,1,2-(η^6 -Mesitylene)-*FeC₂B₉H₁₁*, *see* B -00746
- Methallyldipropylborane, *see* B -00702
- Methanamine compd. with borane(1:1), *see* B -00071
- Methaneboric acid, *see* B -00066
- Methaneboronic acid dimethyl ester, *see* B -00179
- Methanol compd. with boron fluoride(BF₃)(1:1), *see* B -00063
- Methanol compd. with trifluoroborane(1:1), *see* B -00063
- B*-Methoxy-9-BBN, *see* B -00608
- m*-Methoxybenzeneboronic acid, *see* B -00477
- ▷ *o*-Methoxybenzeneboronic acid, *see* B -00476
- ▷ *p*-Methoxybenzeneboronic acid, *see* B -00478
- Methoxybis(1-methylpropyl)borane, B -00625
- Methoxybis(2-methylpropyl)borane, B -00626
- Methoxybis(2,4,6-trimethylphenyl)borane, B -01126
- 2-Methoxy-2-boradadamantane, *see* B -00677
- 3-Methoxy-3-borabicyclo[3.3.1]nonane, B -00607
- 9-Methoxy-9-borabicyclo[3.3.1]nonane, B -00608
- ▷ *B*-Methoxyboracyclopentane, *see* B -00331
- 2-Methoxy-2-boratricyclo[3.3.1.1^{3,7}]decane, B -00677
- 1-Methoxyborepane, *in* B -00400
- ▷ 1-Methoxyborolane, B -00331
- 9-(10-Methoxycarbonyl-1-decenyl)-9-borabicyclo[3.3.1]nonane, B -01152
- ▷ Methoxydiethylborane, *see* B -00337
- Methoxydihydroxyborane, *see* B -00067
- ▷ Methoxydimethylborane, B -00177
- 1-Methoxy-3,6-dimethylborepane, *in* B -00551
- Methoxydiphenylborane, B -00847
- Methoxydipropylborane, B -00505
- 3-Methoxy-7-(methoxymethyl)-3-borabicyclo[3.3.1]nonane, B -00740
- 3-Methoxy-7-(methoxymethyl)-3-borabicyclo[3.3.1]non-6-ene, B -00736
- 3-Methoxy-7-methyl-3-borabicyclo[3.3.1]nonane, B -00693
- N*¹-[*N*-(7-Methoxymethyl-3-borabicyclo[3.3.1]non-6-en)-3-yl]-(*N*-phenylcarbamoyl)pyridon-2-iminate, B -01199
- 7-Methoxymethyl-3-borabicyclo[3.3.1]nonyl acetylacetonate, B -00963
- [[5-(Methoxymethyl)-1,3-cyclohexanediyl]bis(methylene)-*C,C',O'*]methylboron, *see* B -00739
- [[5-(Methoxymethyl)-1,3-cyclohexanediyl]bis(methylene)]-(2,4-pentanedionato-*O,O'*)boron, *see* B -00963
- 3-Methoxy-7-methylene-3-borabicyclo[3.3.1]nonane, B -00678
- 7-(Methoxymethyl)-3-MBBN, *see* B -00740
- 7-(Methoxymethyl)-3-methoxy-3-borabicyclo[3.3.1]nonane, *see* B -00740
- 7-(Methoxyphenyl)-3-methyl-3-borabicyclo[3.3.1]nonane, B -00839
- 7-(Methoxymethyl)-3-(2-propenyl)-3-borabicyclo[3.3.1]non-6-ene, B -00859
- 4-Methoxyphenoxybis(2,4,6-trimethylphenyl)borane, B -01269
- 3-Methoxy-7-phenyl-3-borabicyclo[3.3.1]nonane, B -00954
- ▷ (2-Methoxyphenyl)boronic acid, *see* B -00476
- (3-Methoxyphenyl)boronic acid, *see* B -00477
- ▷ (4-Methoxyphenyl)boronic acid, *see* B -00478
- 3-Methoxy-7-[[[(tetrahydro-2*H*-pyran-2-yl)oxy]methyl]-3-borabicyclo[3.3.1]nonane, B -00968
- 1-Methoxy-*N,N,N',N'*-tetramethylboranediamine, *see* B -00346
- Methoxytrifluoroborate, *see* B -00058
- 1-Methoxy-*N,N*,1-trimethylboranamine, *see* B -00269
- ▷ 3-Methyl-3-alumino-1,2-dicarbaoclosododecaborane(12), *see* B -00212
- Methylaluminum bis(tetrahydroborate), *see* B -00075
- Methylamine borane, *see* B -00071

- Methylamine compd. with borane, *see* B -00071
Methylamine difluoroborane, *see* B -00069
(Methylamino)bis(2,4,6-trimethylphenyl)borane, B -01128
 α -[1-(Methylamino)ethyl]benzenemethanol compd. with borane(1:1), *see* B -00682
B-Methyl-9-BBN, *see* B -00605
B-Methyl-9-BBN *p*-dimethylaminobenzaldehyde, *see* B -01078
B-Methyl-9-BBN hydride, *see* B -00610
4-Methylbenzenamine compd. with trifluoroborane(1:1), *see* B -00467
[(1,2,3,4,5,6- η)-Methylbenzene][(7,8,9,10,11- η)-1,2,3,4,5,6,8,10,11-nonahydro-7,9-dimethyl-7,9-dicarbaundecaborato(2-)]iron, B -00745
Methylbis(methylamino)borane, B -00202
Methylbis(methylseleno)borane, B -00184
Methylbis(methylthio)borane, B -00183
Methylbis(tetrahydroborato)aluminum, B -00075
N-Methyl-1,1-bis(2,4,6-trimethylphenyl)boranamine, *see* B -01128
Methylbis(2,4,6-trimethylphenyl)borane, B -01124
9-Methyl-9-borabicyclo[3.3.1]nonane, B -00605
9-Methyl-9-borabicyclo[3.3.1]nonane 4-dimethylaminobenzaldehyde, B -01078
7-Methyl-3-borabicyclo[3.3.1]nonyl acetylacetonate, B -00910
1-Methyl-1-boracyclohexane, *see* B -00403
Methylborane, B -00064
Methylborane *N*-methylmethanamine, *in* B -00064
1-Methylboratabenzene cobalt complex, *see* B -00768
9-Methyl-9-boratabicyclo[3.3.1]nonane, B -00610
▶ Methyl borate, *see* B -00180
Methyl borate ammonia complex, *see* B -00205
10-Methyl-10,9-borazarophenanthrene, B -00845
1-Methylborazine, B -00072
1-Methylborazole, *see* B -00072
Methylboric acid, *see* B -00066
1-Methylborinane, B -00403
Methylborine, *see* B -00064
Methylborohydride, *see* B -00068
▶ 1-Methylborolane, B -00329
Methylboron dibromide, *see* B -00052
Methylboronic acid, *see* B -00066
Methylboronic acid dimethyl ester, *see* B -00179
Methylborylene, *see* B -00051
Methylborylidene, B -00051
[Methyl(4-bromophenyl)amino]chloro(phenyl)borane, B -00844
(3-Methyl-1,2-butadienyl)boronic acid dimethyl ester, *see* B -00488
3-Methyl-1,3-butadienyldicyclohexylborane, *see* B -01040
3-Methyl-2-butenyldiethylborane, *see* B -00615
(3-Methyl-2-butenyl)dipropylborane, B -00744
3-Methyl-2-butylborane, B -00335
(3-Methyl-2-butyl)borohydride, *see* B -00341
[(5-Methyl-1,3-cyclohexanedyl)bis[methylene]](2,4-pentanedionato-*O,O'*)boron, *see* B -00910
[(6-Methyl-1,3-cyclohexanedyl)(1-methyl-1,2-ethanedyl)]-(1,1,2-trimethylpropyl)borate(1-), *see* B -01016
N-Methyl-*N*-cyclohexyl-1,2-azaborolidine, *see* B -00707
2-Methylcyclohexyldibromoborane dimethyl sulfide, *see* B -00617
[(1,2,3,4,5- η)-1-Methyl-2,4-cyclopentadien-1-yl][(7⁶-phenyl)triphenylborato(1-)]ruthenium, B -01320
B-(2-Methylcyclopentyl)-9-BBN, *see* B -00919
9-(2-Methylcyclopentyl)-9-borabicyclo[3.3.1]nonane, B -00919
(2-Methylcyclopentyl)borane, B -00834
(2-Methylcyclopentyl)boronic acid dimethyl ester, *see* B -00555
2-Methylcyclopentylidibromoborane, *see* B -00393
2-Methylcyclopentylidichloroborane, B -00394
(2-Methylcyclopentyl)dimethoxyborane, B -00555
B-[(2-Methylcyclopentyl)methyl]-9-BBN, *see* B -00965
9-[(2-Methylcyclopentyl)methyl]-9-borabicyclo[3.3.1]nonane, B -00965
Methyldibromoborane, *see* B -00052
Methyldibromoborane pyridine, *see* B -00382
Methyldibromoborane trimethylphosphine, *see* B -00263
Methyl dibutylborinate, *see* B -00624
Methyl di-*sec*-butylborinate, *see* B -00625
Methyldichloroborane, *see* B -00053
Methyl dicyclohexylborinate, *see* B -00870
Methyl dicyclopentylborinate, *see* B -00738
▶ Methyldiethylborane, *see* B -00334
Methyldifluoroborane, *see* B -00055
Methyldihydroxyborane, *see* B -00066
Methyldiiodoborane, *see* B -00059
Methyl diisobutylborinate, *see* B -00626
Methyldimesitylborane, *see* B -01124
Methyldimethoxyborane, B -00179
Methyl(dimethylamino)methoxyborane, *see* B -00269
Methyl diphenylborinate, *see* B -00847
Methyldiselenoboronic acid dimethyl ester, *see* B -00184
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▶ Methyldivinylborane, B -00324
▶ Methyldivinylborine, *see* B -00324
7-Methylene-3-borabicyclo[3.3.1]nonyl acetylacetonate, B -00902
[(5-Methylene-1,3-cyclohexanedyl)bis[methylene]](2,4-pentanedionato-*O,O'*)boron, *see* B -00902
7-Methylene-3-MBBN, *see* B -00678
7-Methylene-3-methoxy-3-borabicyclo[3.3.1]nonane, *see* B -00678
7-Methylene-3-methyl-3-borabicyclo[3.3.1]nonane, *see* B -00674
▶ Methyl ether compd. with boron fluoride(BF₃)(1:1), *see* B -00101
N-(1-Methylethyl)-1,1-bis(2,4,6-trimethylphenyl)boranamine, *see* B -01177
9-(1-Methylethyl)-9-borabicyclo[3.3.1]nonane, *see* B -00737
2-(1-Methylethyl)pyridine, compd. with 9-borabicyclo[3.3.1]nonane(1:1), *see* B -01001
Methylhydrazine bis(borane), B -00076
Methylhydrazine compd. with borane(1:2), *see* B -00076
2-Methyl-1*H*-imidazole compd. with trifluoroborane, *see* B -00222
(Methylimino)bis(dimethylborane), *see* B -00347
[[2,2'-(Methylimino)bis[ethanolato]](2-)-*N,O,O'*]phenylboron, B -00730
[1-[(Methylimino)methyl]-2-naphthalenolato-*N,O*]diphenylboron, B -01235
[2-[(Methylimino)methyl]phenolato-*N,O*]diphenylboron, B -01137
Methyl isocyanide borane, *see* B -00105
7-Methyl-3-MBBN, *see* B -00693
▶ *N*-Methylmethanamine compd. with borane(1:1), *see* B -00138
N-Methylmethanamine compd. with chloroborane(1:1), *see* B -00133
N-Methylmethanamine compd. with trichloroborane(1:1), *see* B -00115
7-Methyl-3-methoxy-3-borabicyclo[3.3.1]nonane, *see* B -00693
Methyl(2-methyl-4-bromophenyl)aminochloro(2-methylphenyl)-borane, B -00948
3-Methyl-7-methylene-3-borabicyclo[3.3.1]nonane, B -00674
9-[3-Methyl-1-(1-methylethyl)-2-butenyl]-9-borabicyclo[3.3.1]nonane, B -01006
5-Methyl-2-(1-methylethyl)-1-[(*N*-methyl-*S*-phenylsulfonimidoyl)methyl], compd. with borane(1:1), *see* B -01087
N-Methylmorpholinium tetraphenylborate, B -01314
4-Methyl-2-penten-2-ylidibromoborane, *see* B -00389
2-Methyl-1-pentyldibromoborane, *see* B -00406
9-(4-Methylphenyl)-9-borabicyclo[3.3.1]nonane, B -00953
3-Methyl-1-phenylboracyclopentane, *see* B -00727
3-Methyl-1-phenylborolane, B -00727
(2-Methylphenyl)boronic acid, *see* B -00472
▶ (3-Methylphenyl)boronic acid, *see* B -00473
▶ (4-Methylphenyl)boronic acid, *see* B -00474
Methyl(phenylethynyl)tetraphenylborato-*B*thallium, B -01341
[*N*-(2-Methylphenyl)-*N'*-2-pyridinylureato-*N,N',O*]diphenylboron, B -01265
▶ Methyl(phenyl)(tetraphenylborato-*B*)thallium, B -01333
▶ Methyl(phenyl)thallium tetraphenylborate, *see* B -01333
(4-Methylphenylthio)bis(2,4,6-trimethylphenyl)borane, B -01271
Methyl phosphite compd. with borane, *see* B -00207
2-Methyl-2-propanamine, compd. with 9-borabicyclo[3.3.1]nonane(1:1), *see* B -00809
▶ 2-Methyl-2-propanamine compd. with borane(1:1), *see* B -00282
(2-Methyl-1-propanamine)triphenylboron, *see* B -01198
(2-Methyl-2-propenyl)diethylborane, *see* B -00550
(2-Methyl-2-propenyl)dipropylborane, B -00702
(2-Methylpropoxy)diphenylborane, B -00992

- 9-(1-Methylpropyl)-9-borabicyclo[3.3.1]nonane, B -00793
 9-(2-Methylpropyl)-9-borabicyclo[3.3.1]nonane, B -00794
 2-Methylpyridine, compd. with 9-borabicyclo[3.3.1]nonane(1:1), see B -00903
 4-Methylpyridine, compd. with 9-borabicyclo[3.3.1]nonane(1:1), see B -00904
 4-Methylpyridine compd. with borane(1:1), see B -00388
 1-Methyl-2(1*H*)-pyridinimine compd. with tripropylborane(1:1), see B -00971
 (1-Methyl-2(1*H*)-pyridinimine-*N*²)tripropylborane, B -00971
 1-(Methylsilyl)-1,5-dicarba-pentaborane(5), B -00190
 ▶ Methyl sulfide compd. with borane, see B -00135
 Methyl sulfide compd. with boron bromide(BBr₃)(1:1), see B -00095
 Methyl sulfide compd. with boron chloride(BCl₃)(1:1), see B -00098
 (Methylthio)bis(2,4,6-trimethylphenyl)borane, B -01127
 Methylthiodibutylborane, see B -00630
 (Methylthio)dimesitylborane, see B -01127
 (Methylthio)dipropylborane, see B -00507
 Methyltributylborate, see B -00880
 Methyltrifluoroborate, see B -00057
 Methyltriethylborate, see B -01134
 Methyltriphenylborate(1-), B -01118
 Methyltriphenylphosphonium tetraphenylborate(1-), B -01387
 Methyltripropylborate(1-), B -00718
 3-Methyl-*N,N,N*-tris(3-methylbutyl)-1-butanaminium tetraphenylborate(1-), see B -01389
 Methyltris(2-methylpropyl)borate(1-), B -00879
 Methyltris(pentafluorophenyl)borate(1-), B -01112
 ▶ Methyl(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)-aluminum, B -00212
 MIBS, see B -00127
 Monochloroborane diethyl etherate, see B -00265
 Monocyclohexylborane triethylamine, see B -00832
 Monofluoroborane trimethylamine, see B -00199
 Monohydridotris(2-methoxyethoxy)borate, see B -00635
 Monoisopinocampheylborane, B -00690
 Monoisopinocampheylborane triethylamine, in B -00690
 Monosiamylborane, see B -00335
 ▶ Morpholine borane, see B -00268
 ▶ Morpholine compd. with borane(1:1), see B -00268
 Morpholine, compd. with trifluoroborane(1:1), see B -00234
 Morpholinium tetraphenylborate, B -01303
 α -Naphthaleneboronic acid, see B -00643
 (1-Naphthalenyl)boronic acid, see B -00643
 ▶ Neocarborane, see B -00152
 (Nitrilotri-2,1-ethanediyl)boron, see B -00396
 [2,2',2''-Nitrilotriethanolato(3-)]boron, see B -00397
 2,2',2''-Nitrilotriethanol cyclic borate, see B -00397
 2,2',2''-Nitrilotriethylborate, see B -00397
 [1,1',1''-Nitrilotri-2-propanolato(3-)]boron, see B -00611
 [3,3',3''-Nitrilotri-1-propanolato(3-)]boron, see B -00612
 1,1',1''-Nitrilotri-2-propanol cyclic borate, see B -00611
 3,3',3''-Nitrilotri-1-propanol cyclic borate, see B -00612
 Nitrilotris(dimethylborane), see B -00448
 [[2,2',2''-Nitrilotris[ethanolato]](3-)-*N,O,O',O''*]boron, B -00397
 [1,1',1''-Nitrilotris[2-propanolato](3-)-*N,O,O',O''*]boron, B -00611
 [3,3',3''-Nitrilotris[1-propanolato](3-)-*N,O,O',O''*]boron, B -00612
 ▶ *m*-Nitrobenzeneboronic acid, see B -00377
o-Nitrobenzeneboronic acid, see B -00376
 (2-Nitrophenyl)boronic acid, see B -00376
 ▶ (3-Nitrophenyl)boronic acid, see B -00377
 Nonaborane(15), B -00041
 [η^6 -Nonahydrodicarbanonaborato(2-)-*B,H*]-bis(triethylphosphine)ruthenium, B -00941
 [(4,5,6,7,8,9- η)-Nonahydro-6,8-dicarbanonaborato(4-)]-bis(triphenylphosphine)ruthenium, B -01367
 Nonahydrohexaborate(1-), B -00030
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N,N,N',N'',N''',1,3,5-Nonamethyl-2,4,6-borazinetriamine, see B -00639
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 η^4 -Norbornadiene(η^6 -1-phenylboratabenzene)cobalt, see B -01067
 (2,5-Norbornadiene)[tetraphenylborato(1-)]rhodium, see B -01332
 9-(2-Norbornyl)-9-borabicyclo[3.3.1]nonane, see B -00958
 2-Norbornylborane, see B -00487
 9-(2-Norbornylmethyl)-9-borabicyclo[3.3.1]nonane, see B -01002
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 Phenyltrimethylammonium tetraphenylborate, B -01342
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 Pyridine compd. with boron chloride(BCl₃)(1:1), *see* B -00308
 Pyridine compd. with boron fluoride(BF₃)(1:1), *see* B -00309
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 ▶ Sodium cyanoborohydride, *in* B -00060
 ▶ Sodium tetrahydroborate, *in* B -00008
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 Sodium triethylhydroborate, *in* B -00434
 1-Stanna-2,3-dicarbadodecacarborane, *see* B -00150
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 N,N,N',N' -Tetrabutyl-1-chloroboranediamine, *see* B -01024
 2,3,4,5-Tetracarbahexaborane(6), B -00223
 Tetracarbonylbis(η^5 -1-*tert*-butyl-2-methyl-1,2-azaborolyl)diiron, *see* B -01149
 Tetracarbonyl[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]chromium, *in* B -00764
 Tetracarbonyl[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]molybdenum, *in* B -00764
 Tetracarbonyl[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]tungsten, *in* B -00764
 Tetracarbonyl[(dimethylamino)borylene]iron, *see* B -00375
 Tetracarbonyl[N,N -dimethylboranaminato(2-)-*B*]iron, B -00375
 Tetracarbonyl[η^2 -dodecahydroheptaborato(1-)]ferrate(1-), B -00277
 Tetracarbonyl(η^2 -heptaborane(11))iron, B -00257
 $N,N,1,1$ -Tetraethylboranamine, *see* B -00579
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 Tetraethyldiboroxane, *see* B -00582
 [Tetrafluorobis(dimethylglyoximate(2-))diborato]aquomethylcobalt, *see* B -00609
 Tetrafluoro[μ -[[1,1'-(1,4-phenylene)bis(3-(4-ethylphenyl)-1,3-propanedionato)](2-)- $O^1,O^3:O^1,O^3$]]diboron, B -01300
 Tetrafluoro[μ -[[1,1'-(1,3-phenylene)bis(3-(4-methoxyphenyl)-1,3-propanedionato)](2-))]diboron, B -01276
 Tetrahydrobis(2-methylcyclopentyl)[μ -(N,N,N',N' -tetramethyl-1,2-ethanediamine-*N:N'*)]diboron, *see* B -01111
 Tetrahydroborate(1-), B -00008
 [Tetrahydroborato(1-)-*H,H'*]bis(triphenylphosphine)copper, B -01353
 Tetrahydroborato(carbonyl)bis[tris(trimethylsilylmethyl)-phosphine]iridium, *see* B -01275
 Tetrahydroborole, *see* B -00227
 ▶ Tetrahydrofuran compd. with borane(1:1), *see* B -00252
 Tetrahydrofuran compd. with boron fluoride (BF₃)(1:1), *see* B -00226
 Tetrahydrofuran compd. with trifluoroborane(1:1), *see* B -00226
 1,2,3,4-Tetrahydro-5-(methoxymethyl)-1,3-di-2-propenylborin, *see* B -00857
 1,2,3,4-Tetrahydro-5-methoxy-6-methyl-1,3-di-2-propenylborin, *see* B -00858
 7-[[[(Tetrahydro-2*H*-pyran-2-yl)oxy]methyl]-3-MBBN, *see* B -00968
 7-[[[(Tetrahydro-2*H*-pyran-2-yl)oxy]methyl]-3-methoxy-3-borabicyclo[3.3.1]nonane, *see* B -00968
 Tetrahydro[μ -(N,N,N',N' -tetramethyl-1,2-ethanediamine-*N:N'*)]bis(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)diboron, *see* B -01286
 Tetraisoamylammonium tetraisoamylborate, *in* B -01160
 Tetraisoamylborate, *see* B -01160
 Tetraisoamylboride, *see* B -01160
 Tetraisopentylammonium tetraisopentylborate, *in* B -01160
 Tetraisopentylammonium tetraphenylborate, *see* B -01389
 Tetraisopentylborate(1-), *see* B -01160
 Tetrakis(benzenemethanolato)borate(1-), *see* B -01301
 Tetrakis(benzyloxy)borate, B -01301
 Tetrakis(5-bromo-2-thienyl)borate(1-), B -00982
 Tetrakis(4-chlorophenyl)borate(1-), B -01228
 Tetrakis(1,2-dimethylpropyl)[μ -(1,2-ethanediamine-*N:N'*)]dihydrodiboron, *see* B -01215
 Tetrakis(2,5-dimethyl-3-thienyl)borate(1-), B -01249
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 Tetrakis(1*H*-imidazolato-*N*¹)borate(1-), B -00762
 Tetrakis(1-imidazolyl)borate, *see* B -00762
 Tetrakis(3-methylbutyl)ammonium tetraphenylborate, B -01389
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 Tetrakis(pentafluorophenyl)borate(1-), B -01226
 Tetrakis(pentafluorophenyl)boronate, *see* B -01226
 Tetrakis(1*H*-pyrazolato-*N*²)borate(1-), B -00763
 Tetrakis(1-pyrazolyl)borate, *see* B -00763
 Tetrakis[3-(trifluoromethyl)phenyl]borate(1-), B -01295
 Tetrakis[4-(trifluoromethyl)phenyl]borate(1-), B -01296
 Tetramethoxyborate(1-), B -00273
 Tetramethylammonium tetraphenylborate, B -01304
 Tetramethylbis[μ -(*N*-phenylbenzenecarbothioamidato-*N:S*)]diboron, B -01323
 Tetramethylbis[*N*-(*N*-phenylethanethioamidato-*N:S*)]diboron, B -01147
 $N,N,1,1$ -Tetramethylboranamine, *see* B -00267
 ▶ N,N,N',N' -Tetramethylboranediamine, *see* B -00280
 Tetramethylborate(1-), B -00259
 1,3,5,7-Tetramethyl-4*H*,4*H*,8*H*,8*H*-7*a*,8*a*-diaz-3*a*,4*a*-diazonia-4,8-diborata-*s*-indacene, *see* B -00684
 Tetramethyldi-*B*-chloroborazine, *see* B -00275
 ▶ 1,1'-Tetramethylenebisborolane, *see* B -00801
 ▶ 1,1'-Tetramethylenediborolane, *see* B -00801
 N,N,N',N' -Tetramethyl-1,2-ethanediamine, compd. with 9-borabicyclo[3.3.1]nonane(1:1), *see* B -00934
 N,N,N',N' -Tetramethyl-1,2-ethanediamine, compd. with borane(1:2), *see* B -00460
 N,N,N',N' -Tetramethyl-1,2-ethanediamine, compd. with [2,2-dimethyl-1-(1-methylethyl)propyl]borane(1:1), *see* B -00939
 N,N,N',N' -Tetramethyl-1,2-ethanediamine compd. with *trans*-(2-methylcyclopentyl)borane(1:2), *in* B -01111
 N,N,N',N' -Tetramethyl-1,2-ethanediamine compd. with trifluoroborane(1:2), *see* B -00439
 Tetramethylethylenediamine bis(borane), B -00460
 N,N,N',N' -Tetramethylethylenediamine bis(carboxyborane), B -00583
 ▶ Tetramethylethylenediamine bis(cyanoborane), B -00581
 N,N,N',N' -Tetramethylethylenediaminebis(*N*-ethylamido)borane, *see* B -00840
 Tetramethylethylenediamine bis[(ethylcarbamoyl)borane], B -00840
 N,N,N',N' -Tetramethylethylenediamine compd. with borane(1:1), *see* B -00454
 N,N,N',N' -Tetramethyl-1-(1-methylethyl)boranediamine, *see* B -00511
 N,N,N',N' -Tetramethyl-1-(1-methyl-2-propenyl)boranediamine, *see* B -00568
 N,N,N',N' -Tetramethyl-1-(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)boranediamine, *see* B -00924
 N,N,N',N' -Tetramethyl-1-phenylboranediamine, *see* B -00675
 N,N,N',N' -Tetramethyl-1-(1*H*-pyrrol-1-yl)boranediamine, *see* B -00548
 N,N,N',N' -Tetramethyl-*N''*-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]boranetriamine, *see* B -00483
 Tetraphenylarsonium(1+) tetraphenylborate(1-), B -01393
 Tetraphenylbis[μ -(*N*-phenylethanethioamidato-*N:S*)]diboron, B -01380
 (Tetraphenylboron)bis(trimethyl phosphite)rhodium, *see* B -01326
 (1,2,3,4-Tetraphenyl-1,3-cyclobutadiene)[nonahydro-1,2-dimethyl-1,2-dicarbaundecaborato(2-)]palladium, B -01339
 Tetraphenyldiboron oxide, *see* B -01241
 Tetraphenylphosphonium tetraphenylborate(1-), B -01394
 Tetrapropylammonium tetraphenylborate, B -01355
 Tetrapropyldiboron oxide, *see* B -00835
 Tetra-2-thienylborate(1-), B -00983
 Thallium(1+) tetraphenylborate(1-), B -01240
B-Thexyl-9-BBN, *see* B -00923
B-Thexyl-9-BBN hydride, *see* B -00928

- B*-Thexyl-9-borabicyclo[3.3.1]nonane, B -00923
 Thexylborane, *see* B -00420
 Thexylbutylhexylborane, *see* B -01022
 Thexylchloroborane, *see* B -00415
 Thexylcyclohexylborane, *see* B -00806
 Thexylcyclohexylbutylborane, *see* B -01020
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 Tribromo(dibutyl disulfide-*S*)boron, *see* B -00560
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 ▶ Tributyl orthoborate, *see* B -00820
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 Tricarbonyl[(2,3,4,5- η)-dicarbonyltrihiropentaborato(2—)]iron, B -00305
 Tricarbonyl[(1,2,3,4,5- η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole]iron, B -00731
 Tricarbonyl[(1,2,3,4,5- η)-3,4-diethyl-2,5-dihydro-1,2,5-thiadiborole]iron, B -00591
 Tricarbonyl[(3,4- η)-4,5-diethyl-1,2,2,3-tetramethyl-1-aza-2-sila-5-boracyclopent-3-ene-*B*⁵,*N*¹]iron, B -00861
 Tricarbonyl[(2,3,4,5- η)-4,5-diethyl-1,2,2,3-tetramethyl- Δ^3 -1,2,5-azasilaboroline]iron, *see* B -00861
 Tricarbonyl[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin]iron, B -00987
 Tricarbonyl[(3,4,5,6- η)-1,2-dihydro-1-methoxyborin]iron, B -00588
 Tricarbonyl[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]iron, B -00945
 Tricarbonyl(4,4-dimethyl-1-phenyl-1-bora-2,5-cyclohexadiene)iron, *see* B -00987
 Tricarbonyl[(2,3,4,5,6- η)-1,1-dimethyl-4-phenyl-1-sila-4-boracyclohexa-2,5-diene]iron, B -00947
 Tricarbonyl[(1,2,3,4,5- η)-2-ethyl-1-phenyl-1*H*-borole]iron, B -00946

- Tricarbonyl[(3,4,5,6,7- η)-heptahydro-3,5-dicarbaheptaborato(2-)]iron, B -00322
- Tricarbonyl[(1,2,3,4,5- η)-heptahydro-1,2-dicarbaheptaborato(2-)]iron, B -00321
- Tricarbonyl[η^5 -heptahydro-*C,C'*-dimethyldicarbanonaborato(2-)]iron, B -00491
- Tricarbonyl[(2,3,4,5,6- η)-hexahydro-2,3-dicarbahexaborato(2-)]iron, B -00318
- Tricarbonyl[(2,3,4,5,6- η)-hexahydro-2,4-dicarbahexaborato(2-)]iron, B -00319
- (2,3-*C*₂*B*₃*H*₇)tricarbonyliron, *see* B -00321
- (π -2,3-*C*₂*B*₄*H*₆)tricarbonyliron, *see* B -00318
- (π -2,4-*C*₂*B*₄*H*₆)tricarbonyliron, *see* B -00319
- (1,2,4-*C*₂*B*₃*H*₅)tricarbonyliron, *see* B -00159
- 1,2,4-(Tricarbonyliron)-*C*₂*B*₄*H*₆, *see* B -00319
- (4)-1,8-(Tricarbonyliron)-*C*₂*B*₅*H*₇, *see* B -00322
- 1,2,3-Tricarbonyliron-*C*₂*B*₄*H*₆, *see* B -00318
- 2,1,4-(Tricarbonyliron)-1,4-dimethyl-*C*₂*B*₇*H*₇, *see* B -00491
- Tricarbonyl[(1,2,3,4,5,6- η)-4-methyl-1-phenylboratabenzene]manganese, B -00944
- ▶ Tricarbonyl[nonahydropentaborate(2-)]iron, B -00193
- Tricarbonyl[(1,2,5- η)-octahydropentaborato(3-)-*H*²]ferate(1-), B -00166
- Tricarbonyl[η^4 -pentahydrodicarbapentaborato(2-)]iron, B -00159
- Tricarbonyl[(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]iron, B -01360
- Tricarbonyl[(1,2,3,4- η)-tetraborane(8)]iron, B -00165
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- 2,4,6-Trichlorobenzeneboronic acid, *see* B -00359
- Trichloroborane diethyl ether, B -00241
- Trichloroborane dimethylamine, B -00115
- Trichloroborane dimethyl sulfide, B -00098
- Trichloroborane pyridine, B -00308
- Trichloroborane tributylamine, B -00817
- Trichloroborane triethylamine, B -00422
- Trichloroborane trimethylamine, B -00171
- Trichloroborane trimethylphosphine, B -00172
- Trichloroborane triphenylphosphine, B -01055
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- 2,4,6-Trichloroborazine, B -00016
- B,B,B*-Trichloroborazole, *see* B -00016
- Trichloroborohydride, *see* B -00001
- Trichloro(*N,N*-dibutyl-1-butanamine)boron, *see* B -00817
- Trichloro(*N,N*-diethylethanamine)boron, *see* B -00422
- Trichloro(*N,N*-dimethylmethanamine)boron, *see* B -00171
- Trichlorohydroborate(1-), B -00001
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- Trichlorophenylborate(1-), B -00366
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- Trichloro[thiobis[methane]]boron, *see* B -00098
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- 2,4,6-Trichloro-1,3,5-trimethylborazine, B -00186
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- ▶ 2,4,6-Trichloro-1,3,5-triphenylborazine, B -01061
- ▶ *B,B,B*-Trichloro-*N,N,N*-triphenylborazole, *see* B -01061
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- Tricyclohexyl-1-hexynylborate(1-), B -01254
- Tricyclohexylhydroborate(1-), B -01097
- Tricyclohexyl orthoborate, *see* B -01093
- Tricyclohexyloxyborane, B -01093
- Tricyclopentylborane, B -00966
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- Tricyclopentyl-1-hexynylborate(1-), B -01182
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- Triethenylborane, *see* B -00387
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- Triethylamine compd. with boron bromide(BBr₃)(1:1), *see* B -00421
- Triethylamine compd. with boron chloride(BCl₃)(1:1), *see* B -00422
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- B,B,B*-Triethylborazole, *see* B -00451
- N,N,N*-Triethylborazole, *see* B -00450
- ▶ Triethylborine, *see* B -00419
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- Triethyl-1*H*-indol-1-ylborate(1-), B -00901
- Triethylmethylborate(1-), B -00510
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- ▶ Trifluoroborane diethyl ether, B -00243
- ▶ Trifluoroborane dimethyl ether, B -00101
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- Trifluoroborane trimethylphosphine, B -00174
- ▶ Trifluoroborane triphenylphosphine, B -01057
- Trifluoroborane triphenylphosphine oxide, B -01056
- 2,4,6-Trifluoroborazine, B -00017

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 Trifluoro[1,1'-oxybis[butane]]boron, *see* B -00565
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 Trihydro[α-[1-(methylamino)ethyl]benzenemethanol-*N*]boron, *see* B -00682
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 Trihydro[5-methyl-2-(1-methylethyl)-1-[(*N*-methyl-*S*-phenylsulfonimidoyl)methyl]cyclohexanol-*N*]boron, B -01087
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 Trihydro(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N*)boron, *see* B -00454
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- C₂H₅BBBr₂**
Dibromoethylborane, B -00085
- C₂H₅BCl₂**
▷Dichloroethylborane, B -00086
- C₂H₅BCl₂O**
Dichloroethoxyborane, B -00087
- C₂H₅BF₂**
Ethylidifluoroborane, B -00088
- C₂H₅BI₂**
Ethyl diiodoborane, B -00089
- C₂H₅BO₂**
Dihydroxyvinylborane, B -00090
- C₂H₅B₃**
1,5-Dicarbapentaborane(5), B -00091
- C₂H₅B₅Li₂**
μ-2,4-Dicarbaheptaborane(7)-2,4-diyl dilithium, B -00092
- C₂H₆BBBr**
Bromodimethylborane, B -00093
- C₂H₆BBBr₂N**
Dibromo(dimethylamino)borane, B -00094
- C₂H₆BBBr₃S**
Tribromoborane dimethyl sulfide, B -00095
- C₂H₆BCl**
▷Chlorodimethylborane, B -00096
- C₂H₆BClO₂**
Chlorodimethoxyborane, B -00097
- C₂H₆BCl₃S**
Trichloroborane dimethyl sulfide, B -00098
- C₂H₆BF**
Fluorodimethylborane, B -00099
- C₂H₆BFO₂**
Fluorodimethoxyborane, B -00100
- C₂H₆BF₃O**
▷Trifluoroborane dimethyl ether, B -00101
Trifluoroborane ethanol, B -00102

$C_2H_6BF_4Tl$

▷Dimethyl(tetrafluoroborato)thallium, B -00103

 C_2H_6BI

Iododimethylborane, B -00104

 C_2H_6BN

Borane isocyanomethane, B -00105

 $C_2H_6BO_2^{\ominus}$ (Acetato-*O*)trihydroborate(1-), B -00106 **$C_2H_6BO_2Na$** (Acetato-*O*)trihydroborate(1-); Na salt, *in* B -00106 **$C_2H_6B_4$**

1,2-Dicarbahehexaborane(6), B -00107

1,6-Dicarbahehexaborane(6), B -00108

 $C_2H_6B_4Pb$

2,3-Dicarba-1-plumbaheptaborane(6), B -00109

 $C_2H_6B_4Sn$

2,3-Dicarba-1-stannaheptaborane(6), B -00110

 C_2H_7B

Dimethylborane, B -00111

Ethylborane, B -00112

 $C_2H_7BBr_2S$

Dibromoborane dimethyl sulfide, B -00113

 $C_2H_7BCl_2S$

Dichloroborane dimethyl sulfide, B -00114

 $C_2H_7BCl_3N$

Trichloroborane dimethylamine, B -00115

 $C_2H_7BF_3N$

▷Trifluoroborane ethylamine, B -00116

 $C_2H_7BI_2S$ Hydrodiiodo[thiobis[methane]]boron, *in* B -00004 **$C_2H_7BN_2$**

Cyanoborane methylamine, B -00117

 C_2H_7BO

Hydroxydimethylborane, B -00118

 $C_2H_7BO_2$

Dimethoxyborane, B -00119

Ethylidihydroxyborane, B -00120

 $C_2H_7B_3$

1,2-Dicarbapentaborane(7), B -00121

 $C_2H_7B_3Si$

1-Silyl 1,5-dicarbapentaborane(5), B -00122

 $C_2H_7B_5$

2,4-Dicarbaheptaborane(7), B -00123

 C_2H_8BBrS

Bromoborane dimethyl sulfide, B -00124

 C_2H_8BCIS

Chloroborane dimethyl sulfide, B -00125

 $C_2H_8BF_2N$

Difluoroborane dimethylamine, B -00126

 C_2H_8BIS

Iodoborane dimethyl sulfide, B -00127

 C_2H_8BN

Aminodimethylborane, B -00128

(Dimethylamino)borane, B -00129

 C_2H_8BP

(Dimethylphosphino)borane, B -00130

 $C_2H_8B_4$

2,3-Dicarbahehexaborane(8), B -00131

 $C_2H_8B_6$

1,7-Dicarbaoctaborane(8), B -00132

 C_2H_9BCIN

Chloroborane dimethylamine, B -00133

 C_2H_9BFN Fluorodihydro(dimethylamine)boron, *in* B -00002 **C_2H_9BS**

▷Borane dimethyl sulfide, B -00135

 $C_2H_{10}AlB$ Dimethyl[tetrahydroborato(1-)-*H,H'*]aluminum, B -00136 **$C_2H_{10}BGa$** Dimethyl[tetrahydroborato(1-)-*H,H'*]gallium, B -00137 **$C_2H_{10}BN$**

▷Borane dimethylamine, B -00138

 $C_2H_{10}BP$

Borane dimethylphosphine, B -00139

 $C_2H_{10}B_4Si$ μ -Silyl-2,3-dicarbahehexaborane(8), B -00140 **$C_2H_{10}B_8$**

1,2-Dicarbadeceborane(10), B -00141

1,6-Dicarbadeceborane(10), B -00142

1,10-Dicarbadeceborane(10), B -00143

 $C_2H_{10}B_{10}Li_2$ μ -1,2-Dicarbadeceborane(12)-1,2-diyldilithium, B -00144 μ -1,7-Dicarbadeceborane(12)-1,7-diyldilithium, B -00145 μ -1,12-Dicarbadeceborane(12)-1,12-diyldilithium, B -00146 **$C_2H_{10}B_{10}Na_2$** μ -1,2-Dicarbadeceborane(12)-1,2-diylidisodium, B -00147 **$C_2H_{11}B_9Ge$**

1,2-Dicarba-3-germadodecaborane, B -00148

 $C_2H_{11}B_9Pb$

1,2-Dicarba-3-plumbadodecacaborane(11), B -00149

 $C_2H_{11}B_9Sn$

1,2-Dicarba-3-stannadodecaborane, B -00150

 $C_2H_{12}B_2Mg$ Bis[trihydromethylborato(1-)-*H,H'*]magnesium, *in* B -00068 **$C_2H_{12}B_{10}$**

1,2-Dicarbadeceborane(12), B -00151

▷1,7-Dicarbadeceborane(12), B -00152

1,12-Dicarbadeceborane(12), B -00153

 $C_2H_{14}AlB_3$

Dimethyl[octahydrotriborato(1-)]aluminum, B -00154

 $C_2H_{18}B_{10}Ge$

7,7-Dimethyl-7-germaundecaborane(14), B -00155

 $C_2H_{18}B_{10}Sn$

7,7-Dimethyl-7-stannaundecaborane(14), B -00156

 $C_2H_{18}B_{10}Tl^{\ominus}$ [η^4 -Dodecahydrodeceborato(2-)]dimethylthallate(1-), B -00157 **$C_3H_4BF_3N_2$**

Trifluoroborane imidazole, B -00158

 $C_3H_5B_3FeO_3$ Tricarbonyl[η^4 -pentahydrodicarbapentaborato(2-)]iron, B -00159 **C_3H_7B**

2-Propenylborane, B -00160

 $C_3H_7BCl_2$

▷Dichloroisopropylborane, B -00161

▷Dichloropropylborane, B -00162

 $C_3H_7BF_2O$

Difluoropropoxyborane, B -00163

 $C_3H_8BClHgO_2$

(Chloromercurimethyl)dimethoxyboron, B -00164

- C₃H₈B₄FeO₃**
Tricarbonyl[(1,2,3,4- η)-tetraborane(8)]iron, B -00165
- C₃H₈B₅FeO₃[⊖]**
Tricarbonyl[(1,2,5- η)-octahydropentaborato(3-)-*H*²]-ferrate(1-), B -00166
- C₃H₉B**
▷ Trimethylborane, B -00167
- C₃H₉BBrN**
Bromo(dimethylamino)methylborane, B -00168
- C₃H₉BBr₃N**
Tribromoborane trimethylamine, B -00169
- C₃H₉BBr₃P**
Tribromoborane trimethylphosphine, B -00170
- C₃H₉BCl₃N**
Trichloroborane trimethylamine, B -00171
- C₃H₉BCl₃P**
Trichloroborane trimethylphosphine, B -00172
- C₃H₉BF₃N**
Trifluoroborane trimethylamine, B -00173
- C₃H₉BF₃P**
Trifluoroborane trimethylphosphine, B -00174
- C₃H₉BI₃P**
Triiodoborane trimethylphosphine, B -00175
- C₃H₉BN₂**
Cyanoborane dimethylamine, B -00176
- C₃H₉BO**
▷ Methoxydimethylborane, B -00177
- C₃H₉BO₂**
Dihydroxypropylborane, B -00178
Methyldimethoxyborane, B -00179
- C₃H₉BO₃**
▷ Trimethoxyborane, B -00180
- C₃H₉BO₅**
Hydrogen dihydroxy[1,2,3-propanetriolato(2-)-*O*¹,*O*²]-borate(1-), B -00181
- C₃H₉BS**
Dimethyl(methylthio)borane, B -00182
- C₃H₉BS₂**
Methylbis(methylthio)borane, B -00183
- C₃H₉BSe₂**
Methylbis(methylseleno)borane, B -00184
- C₃H₉B₃Br₃N₃**
2,4,6-Tribromo-1,3,5-trimethylborazine, B -00185
- C₃H₉B₃Cl₃N₃**
2,4,6-Trichloro-1,3,5-trimethylborazine, B -00186
- C₃H₉B₃F₃N₃**
2,4,6-Trifluoro-1,3,5-trimethylborazine, B -00187
- C₃H₉B₃O₃**
Trimethylboroxin, B -00188
- C₃H₉B₃O₆**
▷ Trimethoxyboroxin, B -00189
- C₃H₉B₃Si**
1-(Methylsilyl)-1,5-dicarbapentaborane(5), B -00190
- C₃H₉B₄Ga**
[(2,3,4,5,6- η)-Hexahydro-2,3-dicarbahexaborato(2-)]-methylgallium, B -00191
- C₃H₉B₄In**
[(2,3,4,5,6- η)-Hexahydro-2,3-dicarbahexaborato(2-)]-methylindium, B -00192
- C₃H₉B₅FeO₃**
▷ Tricarbonyl[nonahydropentaborate(2-)]iron, B -00193
- C₃H₁₀BF₂N**
Difluoroborane trimethylamine, B -00194
- C₃H₁₀BI₂**
Diiodoborane trimethylamine, *in* B -00004
- C₃H₁₀BKO₃**
Hydrotrimethoxyborate(1-); K salt, *in* B -00196
- C₃H₁₀BLiO₃**
Hydrotrimethoxyborate(1-); Li salt, *in* B -00196
- C₃H₁₀BN**
Dimethyl(methylamino)borane, B -00195
- C₃H₁₀BNaO₃**
Hydrotrimethoxyborate(1-); Na salt, *in* B -00196
- C₃H₁₀BO₃[⊖]**
Hydrotrimethoxyborate(1-), B -00196
- C₃H₁₁BBrP**
Bromoborane trimethylphosphine, B -00197
- C₃H₁₁BCIP**
Chloroborane trimethylphosphine, B -00198
- C₃H₁₁BFN**
Fluoroborane trimethylamine, B -00199
Fluorodihydro(trimethylamine)boron, *in* B -00002
- C₃H₁₁BFP**
Fluorodihydro(trimethylphosphine)boron, *in* B -00002
- C₃H₁₁BIN**
▷ Iodoborane trimethylamine, B -00200
- C₃H₁₁BIP**
Iodoborane trimethylphosphine, B -00201
- C₃H₁₁BN₂**
Methylbis(methylamino)borane, B -00202
- C₃H₁₂BN**
▷ Borane trimethylamine, B -00203
Methylborane *N*-methylmethanamine, *in* B -00064
Trimethylborane ammonia, B -00204
- C₃H₁₂BNO₃**
Trimethoxyborane ammonia, B -00205
- C₃H₁₂BN₃**
Tris(methylamino)borane, B -00206
- C₃H₁₂BO₃P**
Borane trimethyl phosphite, B -00207
- C₃H₁₂BP**
Borane trimethylphosphine, B -00208
- C₃H₁₂B₃N₃**
1,3,5-Trimethylborazine, B -00209
2,4,6-Trimethylborazine, B -00210
- C₃H₁₂B₃N₃O₃**
2,4,6-Trimethoxyborazine, B -00211
- C₃H₁₄AlB₉^{⊖⊖}**
▷ Methyl(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)aluminum, B -00212
- C₃H₁₆B₅ClSi**
2-[(Chlorodimethylsilyl)methyl]pentaborane(9), B -00213
- C₃H₁₇B₅Pb**
2,3- μ -(Trimethylplumbyl)pentaborane(9), B -00214
- C₄HBf₆O₄**
Bis(trifluoroacetoxy)borane, B -00215
- C₄H₄BCl₂F₂O₄[⊖]**
Bis(chloroacetato-*O*)difluoroborate(1-), B -00216
- C₄H₅B**
Borole, B -00217
- C₄H₅BO₃**
2-Furanyldihydroxyborane, B -00218
3-Furanyldihydroxyborane, B -00219
- C₄H₆BCl**
Chlorodivinylborane, B -00220
- C₄H₆BCl₂F₃O₄**
Bis(chloroacetato-*O*)difluoroborate(1-)hydrogen fluoride(1:2:1), *in* B -00216
- C₄H₆BF₂O₄[⊖]**
Bis(acetato-*O*)difluoroborate(1-), B -00221

$C_4H_6BF_3N_2$

Trifluoroborane 2-methylimidazole, B -00222

 $C_4H_6B_2$

2,3,4,5-Tetracarbahehexaborane(6), B -00223

 C_4H_7B

Bicyclo[1.1.0]but-1-ylborane, B -00224

 $C_4H_7BO_2$

Ethylnidimethoxyborane, B -00225

 $C_4H_8BF_3O$

Trifluoroborane tetrahydrofuran, B -00226

 $C_4H_8BF_3O_4$ Acetic acid compd. with trifluoroborane(2:1), *in* B -00221 **C_4H_9B**

Borolane, B -00227

 $C_4H_9BBBr_2$

Dibromobutylborane, B -00228

 $C_4H_9BCl_2$

▷Butyldichloroborane, B -00230

tert-Butyldichloroborane, B -00229 **$C_4H_9BCuF_3$** Butyltrifluoroborate(1-); Cu(I) salt, *in* B -00233 **$C_4H_9BF_2$**

Butyldifluoroborane, B -00231

 $C_4H_9BF_2O$

Butoxydifluoroborane, B -00232

 $C_4H_9BF_3^{\ominus}$

Butyltrifluoroborate(1-), B -00233

 $C_4H_9BF_3NO$

Trifluoroborane morpholine, B -00234

 $C_4H_{10}BBBr$

Bromodiethylborane, B -00235

 $C_4H_{10}BBBr_2N$

Dibromo(dimethylamino)borane, B -00236

 $C_4H_{10}BCl$

Chlorodiethylborane, B -00237

 $C_4H_{10}BClO$

Chloroborane tetrahydrofuran, B -00238

 $C_4H_{10}BClO_2$

Chlorodiethoxyborane, B -00239

 $C_4H_{10}BCl_2N$

Dichloro(dimethylamino)borane, B -00240

 $C_4H_{10}BCl_3O$

Trichloroborane diethyl ether, B -00241

 $C_4H_{10}BF_2N$

(Diethylamino)difluoroborane, B -00242

 $C_4H_{10}BF_3O$

▷Trifluoroborane diethyl ether, B -00243

 $C_4H_{10}BIO_2$

Dihydroxy(4-iodobutyl)borane, B -00244

 $C_4H_{11}B$

▷Diethylborane, B -00245

▷Ethylidimethylborane, B -00246

 $C_4H_{11}BBBr_2O$

Dibromoborane diethyl ether, B -00247

 $C_4H_{11}BCl_2O$

Dichloroborane diethyl ether, B -00248

 $C_4H_{11}BNO_3P$

Cyanoborane trimethyl phosphite, B -00249

 $C_4H_{11}BNP$

Cyanoborane trimethylphosphine, B -00250

 $C_4H_{11}BN_2$

▷Cyanoborane trimethylamine, B -00251

 $C_4H_{11}BO$

▷Borane tetrahydrofuran, B -00252

Diethylhydroxyborane, B -00253

 $C_4H_{11}BOS$

Borane 1,4-oxathiane, B -00254

 $C_4H_{11}BO_2$

Butyldihydroxyborane, B -00255

Ethylidimethoxyborane, B -00256

 $C_4H_{11}B_7FeO_4$ Tetracarbonyl(η^2 -heptaborane(11))iron, B -00257 **$C_4H_{12}B^{\ominus}$** *tert*-Butyltrihydroborate, B -00258

Tetramethylborate(1-), B -00259

 $C_4H_{12}BBBrN_2$

Bromobis(dimethylamino)borane, B -00260

 $C_4H_{12}BBBrO$

Bromoborane diethyl ether, B -00261

 $C_4H_{12}BBBr_2N$

Dibromomethylborane trimethylamine, B -00262

 $C_4H_{12}BBBr_2P$

Dibromomethylborane trimethylphosphine, B -00263

 $C_4H_{12}BClN_2$

Chlorobis(dimethylamino)borane, B -00264

 $C_4H_{12}BClO$

Chloroborane diethyl ether, B -00265

 $C_4H_{12}BCuO_3$ Trimethoxymethylborate(1-); Cu(I) salt, *in* B -00272 **$C_4H_{12}BFN_2$**

Bis(dimethylamino)fluoroborane, B -00266

 $C_4H_{12}BLi$ *tert*-Butyltrihydroborate; Li salt, *in* B -00258▷Tetramethylborate(1-); Li salt, *in* B -00259 **$C_4H_{12}BLiO_4$** Tetramethoxyborate(1-); Li salt, *in* B -00273 **$C_4H_{12}BN$**

(Dimethylamino)dimethylborane, B -00267

 $C_4H_{12}^2NNO$

▷Borane morpholine, B -00268

Dimethylaminomethoxymethylborane, B -00269

 $C_4H_{12}BNO_2$ Borane carboxylic acid; NMe₃ complex, *in* B -00062

(Dimethylamino)dimethoxyborane, B -00270

 $C_4H_{12}BNS_2$

Dimethylaminobis(methylthio)borane, B -00271

 $C_4H_{12}BO_3^{\ominus}$

Trimethoxymethylborate(1-), B -00272

 $C_4H_{12}BO_4^{\ominus}$

Tetramethoxyborate(1-), B -00273

 $C_4H_{12}B_2Br_4N_2$ Dibromo(dimethylamino)borane; Dimer, *in* B -00094 **$C_4H_{12}B_2O$**

▷Oxybis[dimethylborane], B -00274

 $C_4H_{12}B_3Cl_2N_3$

2,4-Dichloro-1,3,5,6-tetramethylborazine, B -00275

 $C_4H_{12}B_4$

2,3-Dimethyl-2,3-dicarbahehexaborane(8), B -00276

 $C_4H_{12}B_7FeO_4^{\ominus}$ Tetracarbonyl[η^2 -dodecahydroheptaborato(1-)]ferrate(1-), B -00277 **$C_4H_{12}B_{10}O_4$**

1,7-Dicarbadodecaborane(12)-1,7-dicarboxylic acid, B -00278

 $C_4H_{13}AlB_4$ [(2,6- η)Heptahydro-4,5-dicarbahehexaborato(1-)]-dimethylaluminum, B -00279 **$C_4H_{13}BN_2$**

▷Bis(dimethylamine)borane, B -00280

C₄H₁₃B₂N

Bis(dimethylboryl)amine, B -00281

C₄H₁₄BN▷ Borane *tert*-butylamine, B -00282

Borane diethylamine, B -00283

N,N-Dimethylmethanamine methylborane, *in* B -00064**C₄H₁₄BP**

Borane trimethylphosphonium methylide, B -00284

C₄H₁₆AlB₉▷ Ethyl(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)-aluminum, B -00285▷ Ethyl(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)-aluminum, B -00286**C₄H₁₆B₂N₂**Aminodimethylborane; Dimer, *in* B -00128(Dimethylamino)borane; Dimer, *in* B -00129**C₄H₁₆B₉Ga**Ethyl[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]gallium, B -00287Ethyl[(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)]gallium, B -00288**C₄H₁₆B₁₀O₂**

1,2-Dicarbadodecaborane(12)-1,2-dimethanol, B -00289

1,7-Dicarbadodecaborane(12)-1,7-dimethanol, B -00290

C₄H₁₈AlB₉▷ Dodecahydro-7,8-dicarbaundecaborato(1-)-*H*⁹, *H*¹⁰ dimethylaluminum, B -00291**C₄H₂₂AuB₁₈[⊖]**

Bis[undecahydro-1,2-dicarbaundecaborato(2-)]aurate(1-), B -00292

Bis[undecahydro-1,2-dicarbaundecaborato(2-)]aurate(2-), B -00293

C₄H₂₂B₁₈Cl₂U^{⊖⊖}Dichlorobis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato]uranate(2-), B -00294**C₄H₂₂B₁₈CsFe**Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-); Cs salt, *in* B -00297**C₄H₂₂B₁₈Cu[⊖]**Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(1-), B -00295Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(2-), B -00296**C₄H₂₂B₁₈CuK₂**Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(2-); Di-K salt, *in* B -00296**C₄H₂₂B₁₈Fe[⊖]**Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-), B -00297Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(2-), B -00298**C₄H₂₂B₁₈Ni**Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]nickel, B -00299Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(1-), B -00300Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(2-), B -00301Bis[(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)]nickelate(1-), B -00302**C₄H₂₂B₁₈NiRb**Bis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(1-); Rb salt, *in* B -00300Bis[(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)]nickelate(1-); Rb salt, *in* B -00302**C₄H₂₄B₁₀In₂**Dimethylindium[η^4 -dodecahydrodecaborato(2-)-dimethylindate(1-)], B -00303**C₄H₂₄B₂₀Fe^{⊖⊖}**Bis[(7,8,9,10,11,12- η)-dodecahydro-7,9-dicarbadodecaborato(2-)]ferrate(2-), B -00304**C₅H₃B₅FeO₅**Tricarbonyl[(2,3,4,5- η)-dicarbonyltrihydropentaborato(2-)]iron, B -00305**C₅H₅B**

Borabenzene, B -00306

C₅H₅BBr₃N

Tribromoborane pyridine, B -00307

C₅H₅BCl₃N

Trichloroborane pyridine, B -00308

C₅H₅BF₃N

Trifluoroborane pyridine, B -00309

C₅H₅BO₄

(2-Formyl-3-furanyl)dihydroxyborane, B -00310

(3-Formyl-2-furanyl)dihydroxyborane, B -00311

(4-Formyl-2-furanyl)dihydroxyborane, B -00312

(4-Formyl-3-furanyl)dihydroxyborane, B -00313

(5-Formyl-2-furanyl)dihydroxyborane, B -00314

(5-Formyl-3-furanyl)dihydroxyborane, B -00315

C₅H₆B[⊖]

Boratabenzene, B -00316

C₅H₆BF₆N1,1-Dimethyl-*N*-[2,2,2-trifluoro-1-(trifluoromethyl)-ethylidene]boranamine, B -00317**C₅H₆B₄FeO₃**Tricarbonyl[(2,3,4,5,6- η)-hexahydro-2,3-dicarbahexaborato(2-)]iron, B -00318Tricarbonyl[(2,3,4,5,6- η)-hexahydro-2,4-dicarbahexaborato(2-)]iron, B -00319**C₅H₇BF₂O₂**▷ Difluoro(2,4-pentanedionato-*O,O'*)boron, B -00320**C₅H₇B₃FeO₃**Tricarbonyl[(1,2,3,4,5- η)-heptahydro-1,2-dicarba-pentaborato(2-)]iron, B -00321**C₅H₇B₅FeO₃**Tricarbonyl[(3,4,5,6,7- η)-heptahydro-3,5-dicarbaheptaborato(2-)]iron, B -00322**C₅H₈BN**

▷ Borane pyridine, B -00323

C₅H₉B

▷ Methyldivinylborane, B -00324

C₅H₉BN₂

Borane 4-aminopyridine, B -00325

C₅H₉B₂LiO₄

[Bis(1,3,2-dioxaborolan-2-yl)methyl]lithium, B -00326

C₅H₁₁B

Borinane, B -00327

Cyclopentylborane, B -00328

▷ 1-Methylborolane, B -00329

C₅H₁₁BF₃N

Trifluoroborane piperidine, B -00330

C₅H₁₁BO

▷ 1-Methoxyborolane, B -00331

C₅H₁₁BO₂

Cyclopentylidihydroxyborane, B -00332

C₅H₁₁B₉O₃RuTricarbonyl[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, B -00333**C₅H₁₃B**

▷ Diethylmethylborane, B -00334

3-Methyl-2-butylborane, B -00335

C₅H₁₃BN₂O₂

Cyanoborane diethanolamine, B -00336

C₅H₁₃BO

▷Diethylmethoxyborane, B -00337

C₅H₁₃BO₂

Dimethoxypropylborane, B -00338

Pentylidihydroxyborane, B -00339

C₅H₁₃BS₂

Bis(methylthio)propylborane, B -00340

C₅H₁₄B[⊖]

(1,2-Dimethylpropyl)trihydroborate(1-), B -00341

C₅H₁₄BF₂NEthylidifluoroborane; Me₃N complex, *in* B -00088**C₅H₁₄BLi**(1,2-Dimethylpropyl)trihydroborate(1-); Li salt, *in* B -00341**C₅H₁₄BN**

(3-Dimethylaminopropyl)borane, B -00342

C₅H₁₄BNS₂

1,3,2-Dithiaborolane trimethylamine, B -00343

C₅H₁₅BBrP

Bromodimethylborane trimethylphosphine, B -00344

C₅H₁₅BN₂

Bis(dimethylamino)methylborane, B -00345

C₅H₁₅BN₂O

Bis(dimethylamino)methoxyborane, B -00346

C₅H₁₅B₂N*N,N*-Bis(dimethylboryl)methylamine, B -00347**C₅H₁₅B₃ClN₃**

2-Chloro-1,3,4,5,6-pentamethylborazine, B -00348

C₅H₁₅B₅Fe(η⁵-2,4-Cyclopentadien-1-yl)[η⁵-decahydropentaborato(1-)]iron, B -00349(η⁵-2,4-Cyclopentadien-1-yl)[η⁵-decahydropentaborato(1-)]iron, B -00350**C₅H₁₆BNO**Borane *N,N*-dimethyl(2-methoxyethyl)amine, B -00351**C₅H₁₆BNSi**

Dimethyl(trimethylsilylamino)borane, B -00352

C₅H₁₆B₄Pb

2,3-μ-(Trimethylplumbyl)-4,5-dicarbahexaborane(8), B -00353

C₅H₁₆B₄Sn

2,3-μ-(Trimethylstannyl)-4,5-dicarbahexaborane(8), B -00354

C₅H₁₉AlBN(N,N-Dimethylmethanamine)dimethyl[tetrahydroborato(1-)-*H,H'*]aluminum, *in* B -00136**C₅H₁₉AlBP**Dimethyl[tetrahydroborato(1-)-*H,H'*](trimethylphosphine)-aluminum, *in* B -00136**C₅H₂₀B₁₀Fe**(η⁵-2,4-Cyclopentadien-1-yl)[η⁵-pentadecahydrodecaborato(2-)]iron, B -00355**C₆BCl₂F₅**

Dichloro(pentafluorophenyl)borane, B -00356

C₆BF₉O₆

Tris(trifluoroacetoxy)borane, B -00357

C₆H₃BCrNO₅[⊖]Pentacarbonyl[(cyano-*C*)trihydroborato(1-)-*N*]-chromate(1-), B -00358**C₆H₄BCl₃O₂**

Dihydroxy(2,4,6-trichlorophenyl)borane, B -00359

C₆H₅BBr₂

Dibromophenylborane, B -00360

C₆H₅BCl₂

Dichlorophenylborane, B -00361

C₆H₅BCl₂N₂

Dichlorocyanoborane pyridine, B -00362

C₆H₅BCl₂O₂

(2,4-Dichlorophenyl)dihydroxyborane, B -00363

(2,6-Dichlorophenyl)dihydroxyborane, B -00364

(3,5-Dichlorophenyl)dihydroxyborane, B -00365

C₆H₅BCl₃[⊖]

Trichlorophenylborate(1-), B -00366

C₆H₅BF₂

Difluorophenylborane, B -00367

C₆H₅BF₂O

Difluorophenoxyborane, B -00368

C₆H₅BI₂

Diiodophenylborane, B -00369

C₆H₅BO₂

1,3,2-Benzodioxaborole, B -00370

C₆H₆BBrO₂

▷(4-Bromophenyl)dihydroxyborane, B -00371

C₆H₆BClO₂

(3-Chlorophenyl)dihydroxyborane, B -00372

▷(4-Chlorophenyl)dihydroxyborane, B -00373

C₆H₆BF₃O

Trifluoroborane phenol, B -00374

C₆H₆BFeNO₄Tetracarbonyl[*N,N*-dimethylboranaminato(2-)-*B*]iron, B -00375**C₆H₆BNO₄**

Dihydroxy(2-nitrophenyl)borane, B -00376

▷Dihydroxy(3-nitrophenyl)borane, B -00377

C₆H₇B

Phenylborane, B -00378

C₆H₇BN₂

Cyanoborane pyridine, B -00379

C₆H₇BO₂

▷Phenylidihydroxyborane, B -00380

C₆H₇BO₄

(2-Acetyl-3-furanyl)dihydroxyborane, B -00381

C₆H₈BBr₂N

Dibromomethylborane pyridine, B -00382

C₆H₈BKNDihydrobis(1*H*-pyrazolato-*N'*)borate(1-); K salt, *in* B -00385**C₆H₈BNO₂**

(3-Aminophenyl)dihydroxyborane, B -00383

Pyridine carboxyborane, B -00384

C₆H₈BN₄[⊖]Dihydrobis(1*H*-pyrazolato-*N'*)borate(1-), B -00385**C₆H₈B₂Cl₂N₄**

Bis(4-chloro-1-pyrazolyl)borane, B -00386

C₆H₉B

Trivinylborane, B -00387

C₆H₉BINDihydroiodo(4-methylpyridine)boron, 10CCI, *in* B -00005**C₆H₁₀BN**

Borane 4-methylpyridine, B -00388

C₆H₁₁BBr₂

Dibromo(1,3-dimethyl-1-butenyl)borane, B -00389

Dibromo(3,3-dimethyl-1-butenyl)borane, B -00390

Dibromo(1-ethyl-1-butenyl)borane, B -00391

Dibromo-1-hexenylborane, B -00392

Dibromo(2-methylcyclopentyl)borane, B -00393

C₆H₁₁BCl₂

2-Methylcyclopentylidichloroborane, B -00394

C₆H₁₁BO₈

Borogluconic acid, B -00395

C₆H₁₂BN

1-Aza-4-borabicyclo[2.2.2]octane, B -00396

- C₆H₁₂BNO₃**
[[2,2',2''-Nitrilotris[ethanolato]](3-)-*N,O,O',O''*]boron, B -00397
- C₆H₁₂BN₃**
Cyanoborane 3-(dimethylamino)propanenitrile, B -00398
- C₆H₁₂BO₄S₂[⊖]**
Bis[3-mercapto-1,2-propanediolato(2-)-*O,O'*]borate(1-), B -00399
- C₆H₁₃B**
Borepane, B -00400
Cyclohexylborane, B -00401
▷1-Ethylborolane, B -00402
1-Methylborinane, B -00403
- C₆H₁₃BBr₂**
Dibromo(1-ethylbutyl)borane, B -00404
Dibromohexylborane, B -00405
Dibromo(2-methylpentyl)borane, B -00406
- C₆H₁₃BF₂**
Difluorohexylborane, B -00407
- C₆H₁₃BN₂O**
▷Cyanoborane 4-methylmorpholine, B -00408
- C₆H₁₃BO₂**
1-Hexenyldihydroxyborane, B -00409
- C₆H₁₃BO₆**
Hydrogen bis[1,2,3-propanetriolato(2-)-*O¹,O²*]borate(1-), B -00410
- C₆H₁₄BBr₂N**
Dibromo(dipropylamino)borane, B -00411
- C₆H₁₄BBr₃S**
Tribromoborane dipropyl sulfide, B -00412
- C₆H₁₄BBr₃Se**
Tribromoborane dipropyl selenide, B -00413
- C₆H₁₄BCl**
▷Chlorodipropylborane, B -00414
Chloro(1,1,2-trimethylpropyl)borane, B -00415
- C₆H₁₄BCl₂N**
Dichloro(diisopropylamino)borane, B -00416
- C₆H₁₄BF₃O**
Trifluoroborane 1-hexanol, B -00417
- C₆H₁₄BN**
1-(Dimethylamino)borolane, B -00418
- C₆H₁₅B**
▷Triethylborane, B -00419
(1,1,2-Trimethylpropyl)borane, B -00420
- C₆H₁₅BBr₃N**
Tribromoborane triethylamine, B -00421
- C₆H₁₅BCl₃N**
Trichloroborane triethylamine, B -00422
- C₆H₁₅BFN**
Butyl(dimethylamino)fluoroborane, B -00423
- C₆H₁₅BF₄O**
▷Triethyloxonium tetrafluoroborate, B -00424
- C₆H₁₅BO**
Ethoxydiethylborane, B -00425
- C₆H₁₅BO₂**
Butyldimethoxyborane, B -00426
Diethoxyethylborane, B -00427
Hexyldihydroxyborane, B -00428
- C₆H₁₅BO₃**
▷Triethoxyborane, B -00429
- C₆H₁₅BS₂**
tert-Butylbis(methylthio)borane, B -00430
- C₆H₁₅B₃Cl₃N₃**
2,4,6-Trichloro-1,3,5-triethylborazine, B -00431
- C₆H₁₅B₃O₃**
Triethylboroxin, B -00432
- C₆H₁₅B₉Fe[⊖]**
(η^5 -2,4-Cyclopentadien-1-yl)[η^6 -decahydrocarbadeborato(2-)]ferrate(1-), B -00433
- C₆H₁₆B[⊖]**
Triethylhydroborate(1-), B -00434
- C₆H₁₆BI₂**
Diiodoborane triethylamine, *in* B -00004
- C₆H₁₆BK**
Potassium triethylhydroborate, *in* B -00434
- C₆H₁₆BLi**
▷Lithium triethylhydroborate, *in* B -00434
- C₆H₁₆BN**
Aminodipropylborane, B -00435
(Diethylamino)dimethylborane, B -00436
(Dimethylamino)diethylborane, B -00437
- C₆H₁₆BNO₂**
(Ethoxycarbonyl)borane trimethylamine, B -00438
- C₆H₁₆BNa**
Sodium triethylhydroborate, *in* B -00434
- C₆H₁₆B₂F₆N₂**
Bis(trifluoroborane) tetramethylethylenediamine, B -00439
- C₆H₁₇BCIN**
Chloroborane triethylamine, B -00440
- C₆H₁₇BN₂O**
N-Ethylcarbamoyleborane trimethylamine, B -00441
- C₆H₁₇B₅Cl₂Si₂**
2,4-Bis(chlorodimethylsilyl)-2,4-dicarbaheptaborane(7), B -00442
- C₆H₁₈BN**
Borane triethylamine, B -00443
Trimethylborane trimethylamine, B -00444
- C₆H₁₈BNO**
Borane 2-ethoxy-*N,N*-dimethylethylamine, B -00445
- C₆H₁₈BNO₆**
Trihydroxyborane tris(2-hydroxyethyl)amine, B -00446
- C₆H₁₈BN₃**
Tris(dimethylamino)borane, B -00447
- C₆H₁₈BP**
Diethylphosphine ethylborane, *in* B -00112
- C₆H₁₈B₃N**
Tris(dimethylboryl)amine, B -00448
- C₆H₁₈B₃N₃**
Hexamethylborazine, B -00449
1,3,5-Triethylborazine, B -00450
2,4,6-Triethylborazine, B -00451
- C₆H₁₈B₃N₃O₃**
Tris(dimethylamino)boroxin, B -00452
- C₆H₁₈B₃N₃S₃**
1,3,5-Trimethyl-2,4,6-tris(methylthio)borazine, B -00453
- C₆H₁₉BN₂**
Borane tetramethylethylenediamine, B -00454
(Dimethylaminomethyl)borane trimethylamine, B -00455
- C₆H₂₀BBrP₂**
Dihydrobis(trimethylphosphine)boron(1+); Bromide, *in* B -00457
- C₆H₂₀BCIN₂**
Dihydrobis(trimethylamine)boron(1+); Chloride, *in* B -00456
- C₆H₂₀BN₂[⊖]**
Dihydrobis(trimethylamine)boron(1+), B -00456
- C₆H₂₀BP₂[⊖]**
Dihydrobis(trimethylphosphine)boron(1+), B -00457
- C₆H₂₁BN₃P**
Borane tris(dimethylamino)phosphine, B -00458
- C₆H₂₂AlB₉**
▷Dodecahydro-7,8-dicarbaundecaborato(1-)-*H⁹,H¹⁰*-diethylaluminum, B -00459

C₆H₂₂B₂N₂

Tetramethylethylenediamine bis(borane), B -00460

C₆H₂₄B₃P₃(Dimethylphosphino)borane; Trimer, *in* B -00130**C₆H₂₈B₆P₂**

Hexaborane(10) compd. with trimethylphosphine(1:2), B -00461

C₇H₅BCl₂FeO₂Dicarbonyl(η^5 -2,4-cyclopentadien-1-yl)-dichloroboraneiron, B -00462**C₇H₇BCl₂**

Dichloro(4-methylphenyl)borane, B -00463

C₇H₇BO₃

(2-Formylphenyl)dihydroxyborane, B -00464

C₇H₈BCl₂N

Dichloro(methylphenylamino)borane, B -00465

C₇H₈BF₃O

Trifluoroborane methoxybenzene, B -00466

C₇H₉BF₃N

Trifluoroborane 4-methylaniline, B -00467

C₇H₉BN₂

Cyanoborane aniline, B -00468

Cyanoborane 2-methylpyridine, B -00469

Cyanoborane 3-methylpyridine, B -00470

Cyanoborane 4-methylpyridine, B -00471

C₇H₉BO₂

Dihydroxy(2-methylphenyl)borane, B -00472

▷Dihydroxy(3-methylphenyl)borane, B -00473

▷Dihydroxy(4-methylphenyl)borane, B -00474

C₇H₉BO₂S

Dihydroxy(phenylthiomethyl)borane, B -00475

C₇H₉BO₃

▷Dihydroxy(2-methoxyphenyl)borane, B -00476

Dihydroxy(3-methoxyphenyl)borane, B -00477

▷Dihydroxy(4-methoxyphenyl)borane, B -00478

C₇H₁₀BBr₂N

Dibromomethylborane 4-methylpyridine, B -00479

C₇H₁₀BF₂NDifluoroethylborane pyridine, *in* B -00088**C₇H₁₁B**

1,3-Cyclopentadien-1-yl dimethylborane, B -00481

1,4-Cyclopentadien-1-yl dimethylborane, B -00480

C₇H₁₁B₄Fe(η^5 -2,4-Cyclopentadien-1-yl)[(2,3,4,5,6- η)-hexahydro-2,3-dicarbahexaborato(2-)]iron, B -00482**C₇H₁₂BF₆N₃**

Hexafluoroisopropylideniminobis(dimethylamino)borane, B -00483

C₇H₁₂BN

Borane 2,6-dimethylpyridine, B -00484

C₇H₁₂B₄Fe(η^5 -2,4-Cyclopentadien-1-yl)[(2,3,4,5,6- η)-heptahydro-2,5-dicarbahexaborato(1-)-*H*⁺]iron, B -00485(η^5 -2,4-Cyclopentadien-1-yl)[(2,3,4,5,6- η)-hexahydro-2,3-dicarbahexaborato(2-)]hydroiron, B -00486**C₇H₁₃B**

Bicyclo[2.2.1]hept-2-ylborane, B -00487

C₇H₁₃BO₂

Dimethoxy(3-methyl-1,2-butadienyl)borane, B -00488

C₇H₁₃B₆Fe(η^5 -2,4-Cyclopentadien-1-yl)[(1,3,6,8- η)-octahydro-1,8-dicarbaoctaborato(2-)]iron, B -00489(η^5 -2,4-Cyclopentadien-1-yl)[(3,5,6,7,8- η)-octahydro-5,6-dicarbaoctaborato(2-)]iron, B -00490**C₇H₁₃B₇FeO₃**Tricarbonyl[η^5 -heptahydro-*C*,*C'*-dimethyldicarbanonaborato(2-)]iron, B -00491**C₇H₁₄BBr₂ClS**

Dibromo(5-chloro-1-pentenyl)borane dimethyl sulfide, B -00492

C₇H₁₄BNO₃[3-[Bis(2-hydroxyethyl)amino]-1-propanolato(3-)-*N,O,O',O''*]boron, B -00493**C₇H₁₄BNO₄**

Diethyl(methylnitroacetato)borane, B -00494

C₇H₁₄B₉Fe(η^5 -2,4-Cyclopentadien-1-yl)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron, B -00495**C₇H₁₅B**

▷Diethyl-2-propenylborane, B -00496

3,5-Dimethylborinane, B -00497

C₇H₁₅BBr₂S

Dibromocyclopentylborane dimethyl sulfide, B -00498

C₇H₁₅BCl₂N₂

Dichlorocyanoborane triethylamine, B -00499

C₇H₁₅BO1-Methoxyborepane, *in* B -00400**C₇H₁₅BO₂**

Cyclopentyl dimethoxyborane, B -00500

C₇H₁₅B₈Fe(η^5 -2,4-Cyclopentadien-1-yl)[(5,6,7,8,9,10- η)-decahydro-6,9-dicarbadecaborato(2-)]iron, B -00501**C₇H₁₆B₉Fe⁺**(η^5 -2,4-Cyclopentadien-1-yl)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]-ferrate(1-), B -00502(η^5 -2,4-Cyclopentadien-1-yl)[(7,8,9,10,11- η)-undecahydro-7,9-dicarbaundecaborato(2-)]iron, B -00503**C₇H₁₇BN₂**

Cyanoborane triethylamine, B -00504

C₇H₁₇BO

Methoxydipropylborane, B -00505

C₇H₁₇BO₂

Heptyldihydroxyborane, B -00506

C₇H₁₇BS

Dipropyl(methylthio)borane, B -00507

C₇H₁₇B₁₀Fe(η^5 -2,4-Cyclopentadien-1-yl)[η^6 -dodecahydrodicarbadodecaborato(2-)]iron, B -00508**C₇H₁₈B⁺**

Butyltrimethylborate(1-), B -00509

Triethylmethylborate(1-), B -00510

C₇H₁₈BCuTriethylmethylborate(1-); Cu(I) salt, *in* B -00510**C₇H₁₈BLi**Butyltrimethylborate(1-); Li salt, *in* B -00509Triethylmethylborate(1-); Li salt, *in* B -00510**C₇H₁₉BN₂**

Isopropylbis(dimethylamino)borane, B -00511

C₇H₂₁AuB₉NS₂(Diethylcarbamoeditioato-*S,S'*)[(9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]gold, B -00512**C₈H₅B₃Fe₂O₆**Hexacarbonyl[μ -[(1,4,5- η :2,3,4,5- η)-pentahydro-2,4-dicarbapentaborato(2-)]diiron, B -00513**C₈H₇BF₂O₂**

Difluoro(2-acetylphenoxy)borane, B -00514

C₈H₇BOS₂

Hydroxybis(2-thienyl)borane, B -00515

C₈H₈BF₃O₂

Trifluoroborane methyl benzoate, B -00516

Trifluoroborane phenyl acetate, B -00517

- C₈H₈BN**
10,9-Borazaronaphthalene, B -00518
- C₈H₈BN₄O₂Rh**
Dicarbonyl[dihydrobis(1*H*-pyrazolato-*N'*)borato(1–)-*N*³,*N*^{3'}]rhodium, B -00519
- C₈H₉BO₂**
Dihydroxy(2-phenylethenyl)borane, B -00520
(2-Ethenylphenyl)dihydroxyborane, B -00521
(3-Ethenylphenyl)dihydroxyborane, B -00522
(4-Ethenylphenyl)dihydroxyborane, B -00523
- C₈H₁₁BBrN**
Bromo(dimethylamino)phenylborane, B -00524
- C₈H₁₁BCIN**
Chloro(dimethylamino)phenylborane, B -00525
- C₈H₁₁BNNaO**
Sodium acetanilidoborohydride, *in* B -00526
- C₈H₁₁BNO[⊖]**
Trihydro(*N*-phenylacetamidato-*O*)borate(1–), B -00526
- C₈H₁₁BN₂**
Cyanoborane 4-methylaniline, B -00527
- C₈H₁₁BO₂**
▷Dihydroxy(1-phenylethyl)borane, B -00528
▷Dihydroxy(2-phenylethyl)borane, B -00529
Dimethoxyphenylborane, B -00530
- C₈H₁₁BS**
1-(2-Thienyl)borolane, B -00531
- C₈H₁₁BS₂**
Bis(methylthio)phenylborane, B -00532
- C₈H₁₂BBr₄O₄[⊖]**
Bis[2,3-dibromo-1,4-butanediolato(2–)-*O,O'*]borate(1–), B -00533
- C₈H₁₂BN**
(Diethylamino)diethynylborane, B -00534
Dimethylaminodi-1-propynylborane, B -00535
Dimethyl(phenylamino)borane, B -00536
- C₈H₁₂BN₄[⊖]**
Dimethylbis(1*H*-pyrazolato-*N'*)borate(1–), B -00537
- C₈H₁₂BN₄Na**
Dimethylbis(1*H*-pyrazolato-*N'*)borate(1–); Na salt, *in* B -00537
- C₈H₁₃BN₂**
Bis(methylamino)phenylborane, B -00538
- C₈H₁₄BBr**
9-Bromo-9-borabicyclo[3.3.1]nonane, B -00539
- C₈H₁₄BCl**
9-Chloro-9-borabicyclo[3.3.1]nonane, B -00540
- C₈H₁₄BN**
Borane *N,N*-dimethylaniline, B -00541
- C₈H₁₄BNO**
1-Pyrrolylborane tetrahydrofuran, B -00542
- C₈H₁₄B₂**
2,6-Diboratricyclo[3.3.1.1^{3,7}]decane, B -00543
- C₈H₁₅B**
3-Borabicyclo[3.3.1]nonane, B -00544
9-Borabicyclo[3.3.1]nonane, B -00545
- C₈H₁₆B[⊖]**
9-Boratabicyclo[3.3.1]nonane, B -00546
- C₈H₁₆BK**
9-Boratabicyclo[3.3.1]nonane; K salt, *in* B -00546
- C₈H₁₆BLi**
9-Boratabicyclo[3.3.1]nonane; Li salt, *in* B -00546
- C₈H₁₆BN**
1-Aza-6-borabicyclo[4.4.0]decane, B -00547
- C₈H₁₆BN₃**
Bis(dimethylamino)-1-pyrrolylborane, B -00548
- C₈H₁₆BNa**
9-Boratabicyclo[3.3.1]nonane; Na salt, *in* B -00546
- C₈H₁₇B**
2-Butenyldiethylborane, B -00549
Diethyl(2-methyl-2-propenyl)borane, B -00550
3,6-Dimethylborepane, B -00551
Octyldichloroborane, B -00552
- C₈H₁₇BBr₂S**
Dibromo(1,3-dimethyl-1-butenyl)[thiobis[methane]]boron, *in* B -00389
Dibromo(3,3-dimethyl-1-butenyl)[thiobis[methane]]boron, *in* B -00390
Dibromo(1-ethyl-1-butenyl)[thiobis[methane]]boron, *in* B -00391
Dibromo-1-hexenylborane; Me₂S adduct, *in* B -00392
Dibromo(2-methylcyclopentyl)[thiobis[methane]]boron, *in* B -00393
- C₈H₁₇BCINO**
Diethylaminochloro(1-butenyloxy)borane, B -00553
- C₈H₁₇BCl₂**
Dichlorooctylborane, B -00554
- C₈H₁₇BO₂**
(2-Methylcyclopentyl)dimethoxyborane, B -00555
- C₈H₁₇B₉Ru**
(η⁶-Benzene)[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2–)]ruthenium, B -00556
- C₈H₁₈BBr**
Bromobis(1-methylpropyl)borane, B -00557
Bromodibutylborane, B -00558
- C₈H₁₈BBr₂N**
Dibromo(dibutylamino)borane, B -00559
- C₈H₁₈BBr₃S₂**
Tribromoborane dibutyl disulfide, B -00560
- C₈H₁₈BCl**
Chlorobis(2-methylpropyl)borane, B -00561
▷Dibutylchloroborane, B -00562
- C₈H₁₈BCl₂N**
Dichloro(dibutylamino)borane, B -00563
- C₈H₁₈BF**
▷Dibutylfluoroborane, B -00564
- C₈H₁₈BF₃O**
Trifluoroborane dibutyl ether, B -00565
- C₈H₁₈B₂**
1,6-Diboracyclodecane, B -00566
- C₈H₁₉B**
Dibutylborane, B -00567
- C₈H₁₉BBr₂S**
Dibromo(1-ethylbutyl)[thiobis[methane]]boron, *in* B -00404
Dibromohexylborane; Me₂S adduct, *in* B -00405
Dibromo(2-methylpentyl)[thiobis[methane]]boron, *in* B -00406
- C₈H₁₉BN₂**
Bis(dimethylamino)(1-methyl-2-propenyl)borane, B -00568
2-Butenyldis(dimethylamino)borane, B -00569
- C₈H₁₉BO**
Butoxydiethylborane, B -00570
Dibutyl(hydroxy)borane, B -00571
Ethoxydipropylborane, B -00572
- C₈H₁₉BO₂**
Dihydroxyoctylborane, B -00573
Hexyldimethoxyborane, B -00574
- C₈H₂₀B[⊖]**
Tetraethylborate(1–), B -00575
- C₈H₂₀BBrN₂**
Bromobis(diethylamino)borane, B -00576
- C₈H₂₀BCIN₂**
Chlorobis(diethylamino)borane, B -00577
- C₈H₂₀BCIS**
Chloro(1,1,2-trimethylpropyl)borane; Me₂S adduct, *in* B -00415

$C_8H_{20}BLi$ Tetraethylborate(1-); Li salt, *in* B -00575 **$C_8H_{20}BN$**

Aminodibutylborane, B -00578

Diethylaminodiethylborane, B -00579

Dimethylaminodipropylborane, B -00580

 $C_8H_{20}BNa$ Tetraethylborate(1-); Na salt, *in* B -00575 **$C_8H_{20}B_2F_4N_2$** (Diethylamino)difluoroborane; Dimer, *in* B -00242 **$C_8H_{20}B_2N_4$**

▷ Tetramethylethylenediamine bis(cyanoborane), B -00581

 $C_8H_{20}B_2O$

Oxybis[diethylborane], B -00582

 $C_8H_{21}BS$ Dihydro[thiobis[methane]](1,1,2-trimethylpropyl)boron, *in* B -00420 **$C_8H_{22}BP$** Ethylborane dipropylphosphine, *in* B -00112 **$C_8H_{22}B_2N_2O_4$** *N,N,N',N'*-Tetramethylethylenediamine bis(carboxyborane), B -00583 **$C_8H_{22}B_8Fe$** Bis[(2,3,4,6- η)-pentahydro-4,5-dimethyl-4,5-dicarbahehexaborato(1-)-*H*']iron, B -00584 **$C_8H_{24}B_{10}$**

▷ 1-Hexyl-1,2-dicarbadodecaborane(12), B -00585

 $C_8H_{30}B_{18}Fe^{\ominus}$ Bis[(7,8,9,10,11- η)-1,2,3,4,5,6,9,10,11-nonahydro-7,8-dimethyl-7,8-dicarbaundecaborato(2-)]ferrate(1-), B -00586 **$C_8H_{32}B_4P_4$** (Dimethylphosphino)borane; Tetramer, *in* B -00130 **$C_8H_{32}B_{10}S_2$** Decaborane(12) compd. with 1,1'-thiobis[ethane](1:2), *in* B -00042 **$C_8H_{32}B_{20}Ti^{\ominus\ominus}$** Bis[η^6 -decahydro-*C,C'*-dimethyldicarbadodecaborato(2-)]-titanate(2-), B -00587 **$C_8H_{34}B_{18}FeN$** Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-); Tetramethylammonium salt, *in* B -00297 **$C_8H_{34}B_{18}NNi$** Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(1-); Tetramethylammonium salt, *in* B -00300Bis[(7,8,9,10,11- η)-undecahydro-7,9-dicarbaundecaborato(2-)]nickelate(1-); Tetramethylammonium salt, *in* B -00302 **$C_9H_9BFeO_4$** Tricarbonyl[(3,4,5,6- η)-1,2-dihydro-1-methoxyborin]-iron, B -00588 **$C_9H_{10}BKN_6$** Hydrotris(1*H*-pyrazolato-*N*¹)borate(1-); K salt, *in* B -00589 **$C_9H_{10}BN_6^{\ominus}$** Hydrotris(1*H*-pyrazolato-*N*¹)borate(1-), B -00589 **$C_9H_{10}BN_6Na$** Hydrotris(1*H*-pyrazolato-*N*¹)borate(1-); Na salt, *in* B -00589 **$C_9H_{11}BCl_2$**

Dichloro(2,4,6-trimethylphenyl)borane, B -00590

 $C_9H_{12}B_2FeO_3S$ Tricarbonyl[(1,2,3,4,5- η)-3,4-diethyl-2,5-dihydro-1,2,5-thiadiborole]iron, B -00591 **$C_9H_{12}B_4FeO_2$** Dicarbonyl(η^5 -2,4-cyclopentadien-1-yl){(2,3- η)-heptahydro-4,5-dicarbahehexaborato(1-)]iron, B -00592 **$C_9H_{13}BO_2$**

▷ Dihydroxy(3-phenylpropyl)borane, B -00593

m-Tolyldimethoxyborane, *in* B -00473*o*-Tolyldimethoxyborane, *in* B -00472 **$C_9H_{14}B^{\ominus}$**

Trimethylphenylborate(1-), B -00594

 $C_9H_{14}BCl$

4-Chloro-1-boraadamantane, B -00595

 $C_9H_{14}BF_3O_3S$

9-[[[(Trifluoromethyl)sulfonyl]oxy]-9-borabicyclo[3.3.1]-nonane, B -00596

 $C_9H_{14}BLi$ Trimethylphenylborate(1-); Li salt, *in* B -00594 **$C_9H_{15}B$** 1-Boratricyclo[3.3.1.1^{3,7}]decane, B -005972-Boratricyclo[3.3.1.1^{3,7}]decane, B -00598

▷ Tri-2-propenylborane, B -00599

 $C_9H_{15}BN^{\ominus}$

9-Cyano-9-hydro-9-boratabicyclo[3.3.1]nonane, B -00600

 $C_9H_{15}BNNa$ 9-Cyano-9-hydro-9-boratabicyclo[3.3.1]nonane; Na salt, *in* B -00600 **$C_9H_{15}BO$** 4-Oxa-3-boratricyclo[4.3.1.1^{3,8}]undecane, B -00601 **$C_9H_{15}BO_3$**

▷ Tri(2-propenyloxy)borane, B -00602

 $C_9H_{16}BBr$

3-Bromo-7-methyl-3-borabicyclo[3.3.1]nonane, B -00603

 $C_9H_{16}BN$ *N,N*-Dimethylmethanamine phenylborane, *in* B -00378 **$C_9H_{17}B$**

Di-2-propenylpropylborane, B -00604

9-Methyl-9-borabicyclo[3.3.1]nonane, B -00605

 $C_9H_{17}BCINO$

(Diethylamino)chloro(cyclopentenyl)borane, B -00606

 $C_9H_{17}BO$

3-Methoxy-3-borabicyclo[3.3.1]nonane, B -00607

9-Methoxy-9-borabicyclo[3.3.1]nonane, B -00608

 $C_9H_{17}B_2CoF_4N_4O_5$ Aqua[bis[μ -[(2,3-butanedione dioximato)(2-)-*O,O'*]]-[tetrafluorodiborato(2-)-*N,N',N'',N'''*]methylcobalt, B -00609 **$C_9H_{18}B^{\ominus}$**

9-Methyl-9-boratabicyclo[3.3.1]nonane, B -00610

 $C_9H_{18}BBr_4N_3O_4$ Hydrogen bis[2,3-dibromo-1,4-butanediolato(2-)-*O,O'*]-borate(1-) compd. with guanidine (1:1), *in* B -00533 **$C_9H_{18}BLi$** 9-Methyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00610 **$C_9H_{18}BLiN_2$** Triethyl(1*H*-imidazolato-*N*¹)borate(1-); Li salt, *in* B -00613 **$C_9H_{18}BNO_3$** [1,1',1''-Nitrilotris[2-propanolato](3-)-*N,O,O',O''*]-boron, B -00611[3,3',3''-Nitrilotris[1-propanolato](3-)-*N,O,O',O''*]-boron, B -00612 **$C_9H_{18}BN_2^{\ominus}$** Triethyl(1*H*-imidazolato-*N*¹)borate(1-), B -00613 **$C_9H_{18}B_2O_6$**

Trimethylene borate, B -00614

 $C_9H_{19}B$

Diethyl(3-methyl-2-butenyl)borane, B -00615

2-Propenyldipropylborane, B -00616

 $C_9H_{19}BBr_2S$

Dibromo(2-methylcyclohexyl)borane dimethyl sulfide, B -00617

 $C_9H_{19}BO$ 1-Methoxy-3,6-dimethylborepane, *in* B -00551

- C₉H₁₉BO₂**
(2-Ethylcyclopentyl)dimethoxyborane, B -00618
- C₉H₂₀B[⊖]**
1-Hexenyltrimethylborate(1-), B -00619
- C₉H₂₀BBr**
(1-Bromo-2-methylbutyl)diethylborane, B -00620
- C₉H₂₀BCu**
1-Hexenyltrimethylborate(1-); Cu(I) salt, *in* B -00619
- C₉H₂₀BIO₂**
Dibutoxy(iodomethyl)borane, B -00621
- C₉H₂₁B**
Triisopropylborane, B -00622
▷Tripropylborane, B -00623
- C₉H₂₁BO**
Dibutylmethoxyborane, B -00624
Methoxybis(1-methylpropyl)borane, B -00625
Methoxybis(2-methylpropyl)borane, B -00626
Propoxydipropylborane, B -00627
- C₉H₂₁BO₃**
▷Triisopropoxyborane, B -00628
▷Tripropoxyborane, B -00629
- C₉H₂₁BS**
Dibutyl(methylthio)borane, B -00630
Diethyl(pentylthio)borane, B -00631
- C₉H₂₂B[⊖]**
Triisopropylhydroborate, B -00632
- C₉H₂₂BK**
Triisopropylhydroborate; K salt, *in* B -00632
- C₉H₂₂BKO₃**
▷Feeble hydride, *in* B -00634
- C₉H₂₂BN**
(3-Aminopropyl)dipropylborane, B -00633
- C₉H₂₂BNaO₆**
Hydrotris(2-methoxyethoxy)borate; Na salt, *in* B -00635
- C₉H₂₂BO₃[⊖]**
Triisopropoxyhydroborate, B -00634
- C₉H₂₂BO₆[⊖]**
Hydrotris(2-methoxyethoxy)borate, B -00635
- C₉H₂₄B₃N₃**
2,4,6-Triethyl-1,3,5-trimethylborazine, B -00636
1,3,5-Tripropylborazine, B -00637
- C₉H₂₇BO₃Sn₃**
Tris[(trimethylstannyl)oxy]borane, B -00638
- C₉H₂₇B₃N₆**
2,4,6-Tris(dimethylamino)-1,3,5-trimethylborazine, B -00639
- C₁₀H₉BCl₂Fe**
Dichloroborylferrocene, B -00640
- C₁₀H₉BF₂O₂**
▷Difluoro(1-phenyl-1,3-butanedionato-*O,O'*)boron, B -00641
- C₁₀H₉BO**
3-Hydroxy-3*H*-3-benzoborepin, B -00642
- C₁₀H₉BO₂**
Dihydroxy(1-naphthalenyl)borane, B -00643
- C₁₀H₁₀BCl₂N₆ORh**
Carbonyldichloro[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)]-rhodium, B -00644
- C₁₀H₁₀BCuN₆O**
Carbonyl[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)-*N*²,*N*^{2'},*N*^{2''}]copper, B -00645
- C₁₀H₁₀BF₃Pb**
Bis(cyclopentadienyl)lead boron trifluoride, B -00646
- C₁₀H₁₀BF₃Sn**
Di- π -cyclopentadienyl(trifluoroboryl)tin, B -00647
- C₁₀H₁₀BI₂N₆ORh**
Carbonyl[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)]-diiodorhodium, B -00648
- C₁₀H₁₁BFeO₂**
Ferroceneboronic acid, B -00649
- C₁₀H₁₁BO₂Ru**
Ruthenoceneboronic acid, B -00650
- C₁₀H₁₂B₂Fe**
Bis(η^6 -boratabenzene)iron, B -00651
- C₁₀H₁₂B₂FeO₄**
1,1'-Ferrocenediboronic acid, B -00652
- C₁₀H₁₃B**
▷1-Phenylborolane, B -00653
- C₁₀H₁₃BN₂**
Cyanoborane tetrahydroisoquinoline, B -00654
- C₁₀H₁₄BNO₂**
2-Phenyl-6-aza-1,3-dioxo-2-boracyclooctane, B -00655
- C₁₀H₁₄BNb**
▷Bis(η^5 -2,4-cyclopentadien-1-yl)[tetrahydroborato(1-)-*H,H'*]niobium, B -00656
- C₁₀H₁₄BTi**
Bis(η^5 -2,4-cyclopentadien-1-yl)[tetrahydroborato(1-)-*H,H'*]titanium, B -00657
- C₁₀H₁₄BV**
▷Bis(η^5 -2,4-cyclopentadien-1-yl)[tetrahydroborato(1-)-*H,H'*]vanadium, B -00658
- C₁₀H₁₅B**
9-Ethynyl-9-borabicyclo[3.3.1]nonane, B -00659
- C₁₀H₁₅BBr₂**
Dibromo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)-borane, B -00660
- C₁₀H₁₅BCl[⊖]**
Chloro[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]boron(1+), B -00661
- C₁₀H₁₅BCIN**
Chloro(diethylamino)phenylborane, B -00662
- C₁₀H₁₅BCl₂**
▷Dichloro(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)-borane, B -00663
- C₁₀H₁₅BCrN₂O₅**
Pentacarbonyl[(cyano-*C*)trihydroborato(1-)-*N*]-chromate(1-); Tetramethylammonium salt, *in* B -00358
- C₁₀H₁₅BFeINO₂**
[(3,4,5- η)-1-*tert*-Butyl-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]iodoiron, B -00664
- C₁₀H₁₅BI₂**
Diiodo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)-borane, B -00665
- C₁₀H₁₅BS₂**
Bis(ethylthio)phenylborane, B -00666
- C₁₀H₁₅BZr**
Bis(η^5 -2,4-cyclopentadien-1-yl)-hydro[tetrahydroborato(1-)-*H,H'*]zirconium, B -00667
- C₁₀H₁₅B₂Cl₅**
Chloro[(1,2,3,4,5- η)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]boron(1+); Tetrachloroborate, *in* B -00661
- C₁₀H₁₆BBr₄KO₄**
Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O,O'*]-borate(1-); K salt, *in* B -00668
- C₁₀H₁₆BBr₄NaO₄**
Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O,O'*]-borate(1-); Na salt, *in* B -00668
- C₁₀H₁₆BBr₄O₄[⊖]**
Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O,O'*]-borate(1-), B -00668
- C₁₀H₁₆BClO**
6-Chloro-3-methoxy-7-methylene-3-borabicyclo[3.3.1]-nonane, B -00669
7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]non-6-ene, B -00670

C₁₀H₁₆BKN₄Bis(3,5-dimethyl-1*H*-pyrazolato-*N'*)dihydroborate(1−); K salt, *in* B -00672**C₁₀H₁₆BN**

(Diethylamino)di-1-propynylborane, B -00671

C₁₀H₁₆BN₄[⊖]Bis(3,5-dimethyl-1*H*-pyrazolato-*N'*)dihydroborate(1−), B -00672**C₁₀H₁₇B**3-Boratricyclo[4.3.1.1^{3,8}]undecane, B -00673

3-Methyl-7-methylene-3-borabicyclo[3.3.1]nonane, B -00674

C₁₀H₁₇BN₂

Bis(dimethylamino)phenylborane, B -00675

Diethyl(2-pyridylmethylamino)borane, B -00676

C₁₀H₁₇BO2-Methoxy-2-boratricyclo[3.3.1.1^{3,7}]decane, B -00677

3-Methoxy-7-methylene-3-borabicyclo[3.3.1]nonane, B -00678

C₁₀H₁₇BO₂

9-Acetoxy-9-borabicyclo[3.3.1]nonane, B -00679

C₁₀H₁₈BBr

Bromodicyclopentylborane, B -00680

C₁₀H₁₈BCl

Chlorodicyclopentylborane, B -00681

C₁₀H₁₈BNO

Borane ephedrine, B -00682

C₁₀H₁₈B₂HfBis(η⁵-2,4-cyclopentadien-1-yl)bis[tetrahydroborato(1−)-*H,H'*]hafnium, B -00683**C₁₀H₁₈B₂N₄**

Bis[(3,5-dimethyl-1-pyrazolyl)borane], B -00684

C₁₀H₁₈B₂UBis(η⁵-2,4-cyclopentadien-1-yl)bis[tetrahydroborato(1−)-*H,H'*]uranium, B -00685**C₁₀H₁₈B₂Zr**Bis(η⁵-2,4-cyclopentadien-1-yl)bis[tetrahydroborato(1−)-*H,H'*]zirconium, B -00686**C₁₀H₁₉B**

Butyldi-2-propenylborane, B -00687

3,7-Dimethyl-3-borabicyclo[3.3.1]nonane, B -00688

9-Ethyl-9-borabicyclo[3.3.1]nonane, B -00689

Monoisopinocampheylborane, B -00690

C₁₀H₁₉BCl₂

(1-Butyl-1-hexenyl)dichloroborane, B -00691

C₁₀H₁₉BLiNTriethyl-1*H*-pyrrol-1-ylborate(1−); Li salt, *in* B -00692**C₁₀H₁₉BN[⊖]**Triethyl-1*H*-pyrrol-1-ylborate(1−), B -00692**C₁₀H₁₉BNNa**Triethyl-1*H*-pyrrol-1-ylborate(1−); Na salt, *in* B -00692**C₁₀H₁₉BO**

3-Methoxy-7-methyl-3-borabicyclo[3.3.1]nonane, B -00693

C₁₀H₂₀BBrS

9-Bromo-9-borabicyclo[3.3.1]nonane dimethyl sulfide, B -00694

C₁₀H₂₀BCIS

9-Chloro-9-borabicyclo[3.3.1]nonane dimethyl sulfide, B -00695

C₁₀H₂₀BIS

9-Iodo-9-borabicyclo[3.3.1]nonane dimethyl sulfide, B -00696

C₁₀H₂₀BN

9-Dimethylamino-9-borabicyclo[3.3.1]nonane, B -00697

C₁₀H₂₀BNO

9-(2-Aminoethoxy)-9-borabicyclo[3.3.1]nonane, B -00698

C₁₀H₂₀B₂O

7-(Borylmethyl)-3-methoxy-3-borabicyclo[3.3.1]nonane, B -00699

C₁₀H₂₁B

2-Butenyldipropylborane, B -00700

Diethyl(1-ethyl-2-butenyl)borane, B -00701

(2-Methyl-2-propenyl)dipropylborane, B -00702

C₁₀H₂₁BO

Diethyl(1,1-dimethyl-3-buten-1-yloxy)borane, B -00703

Diethyl(1-hexen-4-yloxy)borane, B -00704

C₁₀H₂₁BS

9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B -00705

C₁₀H₂₂BBr

Bromodipentylborane, B -00706

C₁₀H₂₂BN

[3-(Cyclohexylmethylamino)propyl]borane, B -00707

C₁₀H₂₂BN₃[*N*-(1-Iminoethyl)ethanimidamidato-*N',N''*]dipropylboron, B -00708**C₁₀H₂₃B**

Bis(3-methyl-2-butyl)borane, B -00709

C₁₀H₂₃BCl₂SDichlorooctyl[thiobis[methane]]boron, *in* B -00552**C₁₀H₂₃BI₂S**

Diiodooctylborane dimethyl sulfide, B -00710

C₁₀H₂₃BO

Butoxydipropylborane, B -00711

Dibutylethoxyborane, B -00712

Diethyl(hexyloxy)borane, B -00713

C₁₀H₂₃BO₂

Dibutoxyethylborane, B -00714

Di-*tert*-butoxyethylborane, B -00715**C₁₀H₂₃BS**

(Butylthio)dipropylborane, B -00716

Diethyl(hexylthio)borane, B -00717

C₁₀H₂₄B[⊖]

Methyltripropylborate(1−), B -00718

C₁₀H₂₄BCuMethyltripropylborate(1−); Cu(I) salt, *in* B -00718**C₁₀H₂₄BN**

Dibutyl(dimethylamino)borane, B -00719

Di-*tert*-butyl(dimethylamino)borane, B -00720**C₁₀H₂₇B₉FeN**(η⁵-2,4-Cyclopentadien-1-yl)[η⁶-decahydrocarbadecaborato(2−)]ferrate(1−); Tetramethylammonium salt, *in* B -00433**C₁₁H₁₀BBrN₆O₂Ru**

Bromodicarbonyl[hydrotris(pyrazolato)borato(1−)]-ruthenium, B -00721

C₁₁H₁₀BCIN₆O₂Ru

Dicarbonylchloro[hydrotris(pyrazolato)borato(1−)]-ruthenium, B -00722

C₁₁H₁₀BIN₆O₂Ru

Dicarbonyl[hydrotris(pyrazolato)borato(1−)]-iodoruthenium, B -00723

C₁₁H₁₃BCl₂N₇Rh(Acetonitrile)dichloro[hydrotris(1*H*-pyrazolato-*N*¹)-borato(1−)-*N*²,*N*^{2'},*N*^{2''}]rhodium, B -00724**C₁₁H₁₃BF₃N**Trifluoroborane 2,3,3-trimethyl-3*H*-indole, B -00725**C₁₁H₁₃BFe**(η⁵-2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6-η)-1-methylboratabenzene]iron, B -00726**C₁₁H₁₅B**

3-Methyl-1-phenylborolane, B -00727

1-Phenylborinane, B -00728

C₁₁H₁₅B₂Co(η⁵-2,4-Cyclopentadien-1-yl)[(2,3,5,6-η)-1,4-dihydro-1,4-dimethyl-1,4-diborin]cobalt, B -00729**C₁₁H₁₆BNO₂**[[2,2'-(Methylimino)bis[ethanolato]](2−)-*N,O,O'*]-phenylboron, B -00730

- C₁₁H₁₆B₂FeO₃S**
Tricarbonyl[(1,2,3,4,5- η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole]iron, B -00731
- C₁₁H₁₉B**
3,5-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, B -00733
4,4-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, B -00734
4,6-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, B -00732
9-(2-Propenyl)-9-borabicyclo[3.3.1]nonane, B -00735
- C₁₁H₁₉BCl₂N₂**
Dichloro(diisopropylamino)borane; Py complex, *in* B -00416
- C₁₁H₁₉BO₂**
3-Methoxy-7-(methoxymethyl)-3-borabicyclo[3.3.1]non-6-ene, B -00736
- C₁₁H₂₁B**
9-Isopropyl-9-borabicyclo[3.3.1]nonane, B -00737
- C₁₁H₂₁BO**
Dicyclopentylmethoxyborane, B -00738
7-(Methoxymethyl)-3-methyl-3-borabicyclo[3.3.1]nonane, B -00739
- C₁₁H₂₁BO₂**
3-Methoxy-7-(methoxymethyl)-3-borabicyclo[3.3.1]nonane, B -00740
(2,4-Pentanedionato-*O,O'*)dipropylboron, B -00741
- C₁₁H₂₁BS**
Dicyclopentyl(methylthio)borane, B -00742
- C₁₁H₂₂BBr₄N₃O₄**
Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O,O'*]-borate(1-); Guanidinium salt, *in* B -00668
- C₁₁H₂₂BN**
[1,3,5-Cyclohexanetriyltris[methylene]](ethanamine)-boron, *in* B -00597
- C₁₁H₂₃B**
Dibutyl-2-propenylborane, B -00743
(3-Methyl-2-butenyl)dipropylborane, B -00744
- C₁₁H₂₃B₉Fe**
[(1,2,3,4,5,6- η)-Methylbenzene][(7,8,9,10,11- η)-1,2,3,4,5,6,8,10,11-nonahydro-7,9-dimethyl-7,9-dicarbaundecaborato(2-)]iron, B -00745
[(1,2,3,4,5,6- η)-1,3,5-Trimethylbenzene][(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron, B -00746
- C₁₁H₂₄BN**
9-Borabicyclo[3.3.1]nonane isopropylamine, B -00747
9-Borabicyclo[3.3.1]nonane propylamine, B -00748
9-Borabicyclo[3.3.1]nonane trimethylamine, B -00749
- C₁₁H₂₅BLiN**
(2,2-Dimethyl-1-propaniminato)triethylborate(1-); Li salt, *in* B -00750
- C₁₁H₂₅BN[⊖]**
(2,2-Dimethyl-1-propaniminato)triethylborate(1-), B -00750
- C₁₁H₂₅BNNa**
(2,2-Dimethyl-1-propaniminato)triethylborate(1-); Na salt, *in* B -00750
- C₁₁H₂₅BO**
Dibutylpropoxyborane, B -00751
- C₁₁H₂₆BN**
(3-Aminopropyl)dibutylborane, B -00752
(3-Dimethylaminopropyl)dipropylborane, B -00753
- C₁₁H₂₈BN**
(*N,N*-Diethylethanamine)(1,2-dimethylpropyl)-dihydroboron, *in* B -00335
- C₁₁H₂₈B₉FeN**
(η^5 -2,4-Cyclopentadien-1-yl)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]-ferrate(1-); Tetramethylammonium salt, *in* B -00502
- C₁₂BBr₈O₄[⊖]**
Bis[3,4,5,6-tetrabromo-1,2-benzenediolato(2-)-*O,O'*]-borate(1-), B -00754
- C₁₂H₃BFe₄O₁₂**
[(μ_4 -(Boryl-*B:B:H:H'*)]dodecacarbonyl- μ -hydrotetrairon, B -00755
- C₁₂H₃BO₁₂Ru₄**
[(μ_4 -(Boryl-*B:B:H:H'*)]dodecacarbonyl- μ -hydrotetraruthenium, B -00756
- C₁₂H₈BO₄[⊖]**
Bis[1,2-benzenediolato(2-)-*O,O'*]-borate(1-), B -00757
- C₁₂H₁₀BBr**
Bromodiphenylborane, B -00758
- C₁₂H₁₀BCl**
Chlorodiphenylborane, B -00759
- C₁₂H₁₀BCl₂N**
Dichloro(diphenylamino)borane, B -00760
- C₁₂H₁₁BO**
Hydroxydiphenylborane, B -00761
- C₁₂H₁₂BKN₈**
Tetrakis(1*H*-pyrazolato-*N*²)borate(1-); K salt, *in* B -00763
- C₁₂H₁₂BLiN₈**
Tetrakis(1*H*-pyrazolato-*N*²)borate(1-); Li salt, *in* B -00763
- C₁₂H₁₂BN₈[⊖]**
Tetrakis(1*H*-imidazolato-*N*¹)borate(1-), B -00762
Tetrakis(1*H*-pyrazolato-*N*²)borate(1-), B -00763
- C₁₂H₁₂BN₈Na**
Tetrakis(1*H*-imidazolato-*N*¹)borate(1-); Na salt, *in* B -00762
- C₁₂H₁₂BNaN₈**
Tetrakis(1*H*-pyrazolato-*N*²)borate(1-); Na salt, *in* B -00763
- C₁₂H₁₃B**
4,5-Dihydro-1-phenylborepin, B -00764
- C₁₂H₁₃BCoF₃N₄**
(η^5 -2,4-Cyclopentadien-1-yl)[dihydrobis(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*²](trifluoromethyl)cobalt, B -00765
- C₁₂H₁₄B₂Fe₂N₂O₄**
Di- μ -carbonyldicarbonylbis[(3,4,5- η)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]diiron, B -00766
- C₁₂H₁₅BFe**
Dimethylborylferrocene, B -00767
- C₁₂H₁₆B₂Co**
Bis(1-methylborinato)cobalt, B -00768
- C₁₂H₁₆B₂Fe**
Bis[(1,2,3,4,5,6- η)-1-methylboratabenzene]iron, B -00769
- C₁₂H₁₆B₂Ru**
Bis[(1,2,3,4,5,6- η)-1-methylboratabenzene]ruthenium, B -00770
- C₁₂H₁₈BCl**
7-(Chloromethyl)-3-(2-propenyl)-3-borabicyclo[3.3.1]-non-6-ene, B -00771
- C₁₂H₁₉BCIN**
Chloro(diisopropylamino)phenylborane, B -00772
Chloro(dipropylamino)phenylborane, B -00773
- C₁₂H₂₀BBr₃**
Bromobis(2-bromo-1-hexenyl)borane, B -00774
- C₁₂H₂₀BCl₂N**
Phenyldichloroborane triethylamine, B -00775
- C₁₂H₂₀BCl₃**
Chlorobis(2-chloro-1-hexenyl)borane, B -00776
- C₁₂H₂₀BN₃O₄**
Diethyl(ethyl nitrocarbamato)borane pyridine, B -00777
- C₁₂H₂₀B₄Fe**
(η^6 -Benzene)[(2,3,4,5,6- η)-2,2-diethyl-1,4,5,6-tetrahydro-2,3-dicarbahexaborato(2-)]iron, B -00778
[(1,2,3,4,5,6- η)-1,3,5-Cyclooctatriene][(2,3,4,5,6- η)-2,3-dimethyl-1,4,5,6-tetrahydro-2,3-dicarbahexaborato(2-)]iron, B -00779
- C₁₂H₂₀B₁₀Fe**
(1,2-Dicarbadodecaboran(12)-1-yl)ferrocene, B -00780
(1,2-Dicarbadodecaboran(12)-3-yl)ferrocene, B -00781

- $C_{12}H_{21}B$**
 9-(2-Butenyl)-9-borabicyclo[3.3.1]nonane, B -00782
 Perhydro-9*b*-boraphenylene, B -00783
 Tri-2-butenylborane, B -00784
 Tris(2-methyl-2-propenyl)borane, B -00785
- $C_{12}H_{21}BCl_2N_2$**
 Dichloro(diisopropylamino)borane; 4-Methylpyridine complex, *in* B -00416
- $C_{12}H_{22}B^{\ominus}$**
 Dodecahydro-9*b*-borataphenylene, B -00786
- $C_{12}H_{22}BCl$**
 Chlorodicyclohexylborane, B -00787
 Chlorodi-1-hexenylborane, B -00788
- $C_{12}H_{22}BK$**
 Dodecahydro-9*b*-borataphenylene; K salt, *in* B -00786
- $C_{12}H_{22}BLi$**
 Lithium 1,5,9-cyclododecanetriylhydroborate(1-), *in* B -00786
- $C_{12}H_{22}BN$**
N,N-Diethylethanamine phenylborane, *in* B -00378
- $C_{12}H_{22}BNa$**
 Dodecahydro-9*b*-borataphenylene; Na salt, *in* B -00786
- $C_{12}H_{23}B$**
 9-Butyl-9-borabicyclo[3.3.1]nonane, B -00789
 9-*tert*-Butyl-9-borabicyclo[3.3.1]nonane, B -00790
 Dicyclohexylborane, B -00791
 Hexyldi-2-propenylborane, B -00792
 9-(1-Methylpropyl)-9-borabicyclo[3.3.1]nonane, B -00793
 9-(2-Methylpropyl)-9-borabicyclo[3.3.1]nonane, B -00794
- $C_{12}H_{23}BO$**
 9-Borabicyclo[3.3.1]nonane tetrahydrofuran, *in* B -00545
- $C_{12}H_{23}BO_2Si_2$**
 Bis(trimethylsilyloxy)phenylborane, B -00795
- $C_{12}H_{24}B^{\ominus}$**
 9-Butyl-9-boratabicyclo[3.3.1]nonane, B -00796
 Dicyclohexyldihydroborate(1-), B -00797
- $C_{12}H_{24}BCl$**
 Chloro(1-ethyl-1-butenyl)(1,1,2-trimethylpropyl)borane, B -00798
 Chloro-1-hexenyl(1,1,2-trimethylpropyl)borane, B -00799
- $C_{12}H_{24}BClO$**
 9-Chloro-9-borabicyclo[3.3.1]nonane diethyl ether, B -00800
- $C_{12}H_{24}BLi$**
 9-Butyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00796
 Dicyclohexyldihydroborate(1-); Li salt, *in* B -00797
- $C_{12}H_{24}BN$**
 1-Boraadamantane trimethylamine, *in* B -00597
- $C_{12}H_{24}B_2$**
 $\triangleright$ 1,1'-(1,4-Butanediyl)bis[borolane], B -00801
- $C_{12}H_{24}B_2Cl_2S_2$**
 2,6-Dichloro-2,6-diboraadamantane bis(dimethyl sulfide), B -00802
- $C_{12}H_{25}B$**
 2-Butenyldibutylborane, B -00803
 1-Butyl-3,6-dimethylborepane, B -00804
 (1-Butyl-1-hexenyl)dimethylborane, B -00805
 Cyclohexyl(1,1,2-trimethylpropyl)borane, B -00806
- $C_{12}H_{25}BO_{10}$**
 Hydrogen [bis(3,3'-oxybis[1,2-propanediolato]](2-)-*O*¹,*O*²]borate(1-), B -00807
- $C_{12}H_{26}BBr$**
 Bromodihexylborane, B -00808
- $C_{12}H_{26}BN$**
 9-Borabicyclo[3.3.1]nonane *tert*-butylamine, B -00809
 9-Borabicyclo[3.3.1]nonane diethylamine, B -00810
- $C_{12}H_{26}BNO$**
 2-[(3,6-Dimethyl-1-borepanyl)oxy]-*N,N*-dimethylethanamine, *in* B -00551
- $C_{12}H_{27}B$**
 Bis(1,1,2-trimethylpropyl)borane, B -00811
 $\triangleright$ Tributylborane, B -00813
 Tri-*tert*-butylborane, B -00812
 Tris(1-methylpropyl)borane, B -00814
 Tris(2-methylpropyl)borane, B -00815
- $C_{12}H_{27}BBr_3N$**
 Tribromoborane tributylamine, B -00816
- $C_{12}H_{27}BCl_3N$**
 Trichloroborane tributylamine, B -00817
- $C_{12}H_{27}BO$**
 Ethoxydipentylborane, B -00818
 (Hexyloxy)dipropylborane, B -00819
- $C_{12}H_{27}BO_3$**
 $\triangleright$ Tributoxyborane, B -00820
 Tri-*tert*-butoxyborane, B -00821
 $\triangleright$ Tris(2-butoxy)borane, B -00822
 $\triangleright$ Tris(2-methylpropoxy)borane, B -00823
- $C_{12}H_{27}BS$**
 Dibutyl(butylthio)borane, B -00824
- $C_{12}H_{27}B_3Cl_3N_3$**
 1,3,5-Tributyl-2,4,6-trichloroborazine, B -00825
- $C_{12}H_{27}B_3O_3$**
 Tributylboroxin, B -00826
- $C_{12}H_{27}B_3O_6$**
 Tributoxyboroxin, B -00827
- $C_{12}H_{28}B^{\ominus}$**
 Hydrotris(1-methylpropyl)borate(1-), B -00828
 Hydrotris(2-methylpropyl)borate(1-), B -00829
 Tri-*tert*-butylhydroborate, B -00830
 Tributylhydroborate(1-), B -00831
- $C_{12}H_{28}BK$**
 Hydrotris(2-methylpropyl)borate(1-); K salt, *in* B -00829
 $\triangleright$ K-Selectride, *in* B -00828
 Tributylhydroborate(1-); K salt, *in* B -00831
- $C_{12}H_{28}BLi$**
 $\triangleright$ Hydrotris(2-methylpropyl)borate(1-); Li salt, *in* B -00829
 $\triangleright$ L-Selectride, *in* B -00828
 Tri-*tert*-butylhydroborate; Li salt, *in* B -00830
 Tributylhydroborate(1-); Li salt, *in* B -00831
- $C_{12}H_{28}BN$**
 Cyclohexylborane triethylamine, B -00832
 Dibutyl(diethylamino)borane, B -00833
 (2-Methylcyclopentyl)borane, B -00834
 (2-Methylcyclopentyl)borane; Et₃N complex, *in* B -00834
- $C_{12}H_{28}B_2O$**
 Oxybis[dipropylborane], B -00835
- $C_{12}H_{30}BN$**
 Tri-*tert*-butylborane ammonia, B -00836
 (1,1,2-Trimethylpropyl)borane; NEt₃ complex, *in* B -00420
 Tripropylborane trimethylamine, B -00837
- $C_{12}H_{30}BN_3$**
 Tris(diethylamino)borane, B -00838
- $C_{12}H_{30}B_3N_3$**
 Hexaethylborazine, B -00839
- $C_{12}H_{31}BN_2$**
 Dihydro(*N,N,N,N'*-tetramethyl-1,2-ethanediamine-*N*)-(1,1,2-trimethylpropyl)boron, *in* B -00420
- $C_{12}H_{32}AlB_9O_2$**
 Ethyl(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)aluminum; Bis-THF adduct, *in* B -00285
- $C_{12}H_{32}B_2N_4O_2$**
 Tetramethylethylenediamine bis[(ethylcarbamoyle)borane], B -00840
- $C_{12}H_{42}AuB_{18}N$**
 Bis[undecahydro-1,2-dicarbaundecaborato(2-)]aurate(1-); Tetraethylammonium salt, *in* B -00292

- C₁₂H₄₂B₈P₂Pt**
[η³-Dodecahydrooctaborato(2-)]bis(triethylphosphine)-platinum, B -00841
- C₁₂H₄₂B₁₀P₂Pt**
[(5,6,7,8,9,10-η)Dodecahydrodecaborato(2-)]bis(triethylphosphine)platinum, B -00842
- C₁₂H₄₂B₁₈FeN**
Bis[(7,8,9,10,11-η)-1,2,3,4,5,6,9,10,11-nonahydro-7,8-dimethyl-7,8-dicarbaundecaborato(2-)]ferrate(1-); Tetramethylammonium salt, *in* B -00586
- C₁₂H₄₆B₁₈FeN₂**
Bis[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(2-); Bis(tetramethylammonium) salt, *in* B -00298
- C₁₂H₄₆B₁₈N₂Ni**
Bis[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(2-); Bis(tetramethylammonium) salt, *in* B -00301
- C₁₃H₁₀BCoO₂**
Dicarbonyl[(1,2,3,4,5,6-η)-1-phenylboratabenzene]-cobalt, B -00843
- C₁₃H₁₂BBrClN**
[Methyl(4-bromophenyl)amino]chloro(phenyl)borane, B -00844
- C₁₃H₁₂BN**
10-Methyl-10,9-borazarophenanthrene, B -00845
- C₁₃H₁₃BFeN₆O₃**
Acetyldicarbonyl[hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*²,*N*²]iron, B -00846
- C₁₃H₁₃BO**
Methoxydiphenylborane, B -00847
- C₁₃H₁₅B**
4,4-Dimethyl-1-phenyl-1-bora-2,5-cyclohexadiene, B -00848
- C₁₃H₁₈BFeNO₂**
2-[(Dimethylamino)methyl]ferroceneboronic acid, B -00849
- C₁₃H₁₈BN₆Rh**
Bis(ethene)[hydrotris(1*H*-pyrazolato-*N*)borato(1-)-*N*²,*N*²]rhodium, B -00850
- C₁₃H₁₉BCIN**
9-Chloro-9-borabicyclo[3.3.1]nonane pyridine, B -00851
- C₁₃H₂₀BCl**
9-(5-Chloro-1-pentynyl)-9-borabicyclo[3.3.1]nonane, B -00852
- C₁₃H₂₀BN**
9-Borabicyclo[3.3.1]nonane pyridine, B -00853
- C₁₃H₂₁B**
9-(1-Cyclopenten-1-yl)-9-borabicyclo[3.3.1]nonane, B -00854
- C₁₃H₂₁BCl₂N₃ORh**
Dichloro(*N,N*-dimethylformamide-*O*)bis(pyridine)-[tetrahydroborato(1-)-*H*]rhodium, B -00855
- C₁₃H₂₁BN₂S**
(*N,N*-Diethyl-*N'*-phenylthiourea)dimethylborane, B -00856
- C₁₃H₂₁BO**
1,5-Diallyl-3-(methoxymethyl)-1-bora-2-cyclohexene, B -00857
1,5-Diallyl-3-methoxy-2-methyl-1-bora-2-cyclohexene, B -00858
7-(Methoxymethyl)-3-(2-propenyl)-3-borabicyclo[3.3.1]-non-6-ene, B -00859
- C₁₃H₂₁BO₂**
3-Borabicyclo[3.3.1]non-3-yl acetylacetonate, B -00860
- C₁₃H₂₂BClO**
[2-Chloro-1,3,5-cyclohexanetriyltris(methylene)]-(tetrahydrofuran)boron, *in* B -00595
- C₁₃H₂₂BFeNO₃Si**
Tricarbonyl[(3,4-η)-4,5-diethyl-1,2,2,3-tetramethyl-1-aza-2-sila-5-boracyclopent-3-ene-*B*⁵,*N*¹]iron, B -00861
- C₁₃H₂₃B**
9-Cyclopentyl-9-borabicyclo[3.3.1]nonane, B -00862
9-(1-Pentenyl)-9-borabicyclo[3.3.1]nonane, B -00863
- C₁₃H₂₃BO**
1-Boratricyclo[3.3.1.1^{3,7}]decane; THF complex, *in* B -00597
- C₁₃H₂₄B[⊖]**
9-Cyclopentyl-9-boratabicyclo[3.3.1]nonane, B -00864
- C₁₃H₂₄BCl₂N**
(1,2,3,4,5-Pentamethyl-2,4-cyclopentadien-1-yl)-dichloroborane trimethylamine, B -00865
- C₁₃H₂₄BFeNO₂Si**
Dicarbonyl[(3,4,5-η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹](trimethylsilyl)iron, B -00866
- C₁₃H₂₄BLi**
9-Cyclopentyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00864
- C₁₃H₂₄BLiO**
2-Furanyltripropylborate(1-); Li salt, *in* B -00867
- C₁₃H₂₄BO[⊖]**
2-Furanyltripropylborate(1-), B -00867
- C₁₃H₂₅B**
3-*tert*-Butyl-7-methyl-3-borabicyclo[3.3.1]nonane, B -00868
9-(1,2-Dimethylpropyl)-9-borabicyclo[3.3.1]nonane, B -00869
- C₁₃H₂₅BO**
1-Boratricyclo[3.3.1.1^{3,7}]decane; Et₂O complex, *in* B -00597
Dicyclohexyl(methoxy)borane, B -00870
- C₁₃H₂₅BS**
Dicyclohexyl(methylthio)borane, B -00871
- C₁₃H₂₆B[⊖]**
Dicyclohexylhydromethylborate(1-), B -00872
- C₁₃H₂₆BLi**
Dicyclohexylhydromethylborate(1-); Li salt, *in* B -00872
- C₁₃H₂₆BLiO**
(Ethoxyethynyl)tripropylborate(1-); Li salt, *in* B -00873
- C₁₃H₂₆BN**
3-Boratricyclo[4.3.1.1^{3,8}]undecane; Me₃N complex, *in* B -00673
- C₁₃H₂₆BO[⊖]**
(Ethoxyethynyl)tripropylborate(1-), B -00873
- C₁₃H₂₇BO**
Dibutyl(2-penten-3-yloxy)borane, B -00874
- C₁₃H₂₇BSi**
9-[1-(Trimethylsilyl)ethyl]-9-borabicyclo[3.3.1]nonane, B -00875
9-(2-Trimethylsilyl)ethyl)-9-borabicyclo[3.3.1]nonane, B -00876
- C₁₃H₂₉BO₂**
Dibutoxypentylborane, B -00877
- C₁₃H₂₉BS**
Dibutyl(pentylthio)borane, B -00878
- C₁₃H₃₀B[⊖]**
Methyltris(2-methylpropyl)borate(1-), B -00879
Tributylmethylborate(1-), B -00880
- C₁₃H₃₀BCu**
Methyltris(2-methylpropyl)borate(1-); Cu(I) salt, *in* B -00879
Tributylmethylborate(1-); Cu (I) salt, *in* B -00880
- C₁₃H₃₀BN**
Dibutyl[3-(dimethylamino)propyl-*C,N*]boron, B -00881
Dibutyl[3-(ethylamino)propyl-*C,N*]boron, B -00882
- C₁₄H₈BKO₆**
Bis[2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); K salt, *in* B -00883

C₁₄H₈BNaO₆Bis[2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); Na salt, *in* B -00883**C₁₄H₈BO₆[⊖]**Bis[2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-), B -00883**C₁₄H₁₀BN₂NaO₆**Bis[4-amino-2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); Na salt, *in* B -00884**C₁₄H₁₀BN₂O₆[⊖]**Bis[4-amino-2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-), B -00884**C₁₄H₁₀BN₂O₆Rb**Bis[4-amino-2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); Rb salt, *in* B -00884**C₁₄H₁₁BN₂O₆**Bis[4-amino-2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); H deriv., *in* B -00884**C₁₄H₁₁BO₂**

Dihydroxy(9-phenanthrenyl)borane, B -00885

C₁₄H₁₂BNO₆Bis[2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); NH₄ salt, *in* B -00883**C₁₄H₁₅B**

Ethylidiphenylborane, B -00886

C₁₄H₁₅BCoIN₆(η⁵-2,4-Cyclopentadien-1-yl)[hydrotris(1-pyrazoyl)-borato]cobalt(1+); Iodide, *in* B -00887**C₁₄H₁₅BCoN₆[⊕]**(η⁵-2,4-Cyclopentadien-1-yl)[hydrotris(1-pyrazoyl)-borato]cobalt(1+), B -00887**C₁₄H₁₅BO**

Ethoxydiphenylborane, B -00888

Hydroxybis(4-methylphenyl)borane, B -00889

C₁₄H₁₆B[⊖]

Dimethyldiphenylborate(1-), B -00890

C₁₄H₁₆BLiDimethyldiphenylborate(1-); Li salt, *in* B -00890**C₁₄H₁₆BN**

Dimethylaminodiphenylborane, B -00891

C₁₄H₁₆BNO

(2-Aminoethoxy)diphenylborane, B -00892

C₁₄H₁₆BNO₃

(2-Aminoethoxy)diphenyloxyborane, B -00893

C₁₄H₁₈BN₃Diethyl(*N*-2-pyridinyl-2-pyridinaminato-*N*^{*N*},*N*^{*N*})boron, B -00894**C₁₄H₁₈B₂FeO**

[(1,2,3,4,5,6-η)-2-Acetyl-1-methylboratabenzene]-[(1,2,3,4,5,6-η)-1-methylboratabenzene]iron, B -00895

C₁₄H₁₉B

9-Phenyl-9-borabicyclo[3.3.1]nonane, B -00896

C₁₄H₁₉BCIN[2-Chloro-1,3,5-cyclohexanetriyltris(methylene)]-(pyridine)boron, *in* B -00595**C₁₄H₁₉BCl₂N₇Rh**Dichloro[hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*^{2'},*N*^{2''}](1-isocyanobutane)rhodium, B -00897**C₁₄H₂₀B[⊖]**

9-Phenyl-9-boratabicyclo[3.3.1]nonane, B -00898

C₁₄H₂₀BCl

Chloro(2-phenylethenyl)(1,1,2-trimethylpropyl)borane, B -00899

C₁₄H₂₀BLi9-Phenyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00898**C₁₄H₂₀BN**1-Boratricyclo[3.3.1.1^{3,7}]decane; Py complex, *in* B -00597Pyridine triallylborane, *in* B -00599**C₁₄H₂₀B₂CoF₄N₅O₄**▷[Bis[μ-[(2,3-butanedione dioximato)(2-)-*O*:*O*']-tetrafluorodiborato(2-)-*N*,*N*^{*N*},*N*^{*N*},*N*^{*N*}]-methyl(pyridine)cobalt, B -00900**C₁₄H₂₁BLiN**Triethyl-1*H*-indol-1-ylborate(1-); Li salt, *in* B -00901**C₁₄H₂₁BN[⊖]**Triethyl-1*H*-indol-1-ylborate(1-), B -00901**C₁₄H₂₁BO₂**

7-Methylene-3-borabicyclo[3.3.1]nonyl acetylacetonate, B -00902

C₁₄H₂₂BN

9-Borabicyclo[3.3.1]nonane 2-methylpyridine, B -00903

9-Borabicyclo[3.3.1]nonane 4-methylpyridine, B -00904

C₁₄H₂₃B

Bis(bicyclo[2.2.1]hept-2-yl)borane, B -00905

9-(1-Cyclohexen-1-yl)-9-borabicyclo[3.3.1]nonane, B -00906

9-(3,3-Dimethyl-1-butynyl)-9-borabicyclo[3.3.1]nonane, B -00907

9-(1-Hexynyl)-9-borabicyclo[3.3.1]nonane, B -00908

C₁₄H₂₃BCIN

Chloro(dibutylamino)phenylborane, B -00909

C₁₄H₂₃BO1,5-Cyclooctanediylethynyl(tetrahydrofuran)boron, *in* B -00659**C₁₄H₂₃BO₂**

7-Methyl-3-borabicyclo[3.3.1]nonyl acetylacetonate, B -00910

C₁₄H₂₄BNO₂

2-Adamantyl-6-aza-1,3-dioxo-2-boracyclooctane, B -00911

C₁₄H₂₄B₂Br₂N₄

Bis[(4-bromo-1-pyrazolyl)diethylborane], B -00912

C₁₄H₂₅B

9-Cyclohexyl-9-borabicyclo[3.3.1]nonane, B -00913

9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B -00914

9-(3,3-Dimethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane, B -00915

9-(1-Ethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane, B -00916

9-(1-Hexenyl)-9-borabicyclo[3.3.1]nonane, B -00917

9-(4-Hexenyl)-9-borabicyclo[3.3.1]nonane, B -00918

9-(2-Methylcyclopentyl)-9-borabicyclo[3.3.1]nonane, B -00919

C₁₄H₂₅BCl₃N*N,N,N*-Triethylethanaminium trichlorophenylborate(1-), *in* B -00366**C₁₄H₂₅BO**3-Boratricyclo[4.3.1.1^{3,8}]undecane; THF complex, *in* B -00673**C₁₄H₂₅B₃Fe**

[(1,2,3,4,5,6-η)-1,3,5-Cyclooctatriene][(1,2,3,4,5-η)-pentahydro-1,2-diethyl-1,2-dicarbapentaborato(2-)]-iron, B -00920

C₁₄H₂₇B

9-Hexyl-9-borabicyclo[3.3.1]nonane, B -00922

9-(3-Hexyl)-9-borabicyclo[3.3.1]nonane, B -00921

B-Thexyl-9-borabicyclo[3.3.1]nonane, B -00923**C₁₄H₂₇BN₂**

Bis(dimethylamino)(1,2,3,4,5-pentamethyl-2,4-cyclopentadienyl)borane, B -00924

9-Borabicyclo[3.3.1]nonane 1,4-diazabicyclo[2.2.2]-octane, B -00925

C₁₄H₂₇BO

Dibutyl(1-cyclohexenyloxy)borane, B -00926

C₁₄H₂₈B[⊖]

Tributylethynylborate(1-), B -00927

9-(1,1,2-Trimethylpropyl)-9-boratabicyclo[3.3.1]nonane, B -00928

C₁₄H₂₈BLiTributylethynylborate(1-); Li salt, *in* B -00927

- 9-(1,1,2-Trimethylpropyl)-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00928
- C₁₄H₂₉B₉Fe**
[(1,2,3,4,5,6- η)-Hexamethylbenzene][(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron, B -00929
- C₁₄H₃₀BCl**
Chlorooctyl(1,1,2-trimethylpropyl)borane, B -00930
- C₁₄H₃₀BN**
9-Borabicyclo[3.3.1]nonane triethylamine, B -00931
- C₁₄H₃₁B**
Dibutyl(1,1,2-trimethylpropyl)borane, B -00933
- C₁₄H₃₁BN₂**
9-Borabicyclo[3.3.1]nonane tetramethylethylenediamine, B -00934
- C₁₄H₃₁BO**
Butoxydipentylborane, B -00935
Dibutyl(hexyloxy)borane, B -00936
- C₁₄H₃₁BO₂**
Dibutoxyhexylborane, B -00937
- C₁₄H₃₁BS**
Dibutyl(hexylthio)borane, B -00938
- C₁₄H₃₃BN₂**
2,4,4-Trimethyl-3-perlylborane
tetramethylethylen diamine, B -00939
- C₁₄H₃₄BN₃**
Dimethylaminobis(diisopropylamino)borane, B -00940
- C₁₄H₃₉B₇P₂Ru**
[η^6 -Nonahydrodicarbanona borato(2-)-*B,H*]-bis(triethylphosphine)ruthenium, B -00941
- C₁₅H₁₀BF₆N**
1,1-Diphenyl-*N*-[2,2,2-trifluoro-1-(trifluoromethyl)-ethylidene]boranamine, B -00942
- C₁₅H₁₁BF₂O₂**
▷(1,3-Diphenyl-1,3-propanedionato-*O,O'*)difluoroboron, B -00943
- C₁₅H₁₂BMnO₃**
Tricarbonyl[(1,2,3,4,5,6- η)-4-methyl-1-phenylboratabenzene]manganese, B -00944
- C₁₅H₁₃BFeO₃**
Tricarbonyl[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]iron, B -00945
Tricarbonyl[(1,2,3,4,5- η)-2-ethyl-1-phenyl-1*H*-borole]-iron, B -00946
- C₁₅H₁₄BCl₂FeN**
Dichloroferrocenyl(pyridine)boron, *in* B -00640
- C₁₅H₁₅BFeO₃Si**
Tricarbonyl[(2,3,4,5,6- η)-1,1-dimethyl-4-phenyl-1-sila-4-boracyclohexa-2,5-diene]iron, B -00947
- C₁₅H₁₆BBrClN**
Methyl(2-methyl-4-bromophenyl)aminochloro(2-methylphenyl)borane, B -00948
- C₁₅H₁₆BF₆N₆PRu**
(η^6 -Benzene)[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)-*N*²,*N*^{2'},*N*^{2''}]ruthenium(1+); Hexafluorophosphate, *in* B -00949
- C₁₅H₁₆BN₆Ru[⊕]**
(η^6 -Benzene)[hydrotris(1*H*-pyrazolato-*N'*)borato(1-)-*N*²,*N*^{2'},*N*^{2''}]ruthenium(1+), B -00949
- C₁₅H₁₇BMoN₆O₂**
Dicarbonyl[hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*^{2'},*N*^{2''}][(1,2,3- η -2-methyl-2-propenyl)-molybdenum, B -00950
- C₁₅H₁₇BN₆O₂W**
Dicarbonyl[hydrotris(pyrazolato)borato(1-)](η^3 -2-methylpropenyl)tungsten, B -00951
- C₁₅H₁₈BNO**
(3-Aminopropoxy)diphenylborane, B -00952
- C₁₅H₂₀BCl₂N**
Dichloro(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)-(pyridine)boron, *in* B -00663
- C₁₅H₂₁B**
9-(4-Methylphenyl)-9-borabicyclo[3.3.1]nonane, B -00953
- C₁₅H₂₁BO**
3-Methoxy-7-phenyl-3-borabicyclo[3.3.1]nonane, B -00954
- C₁₅H₂₂BCl₂IrN₆**
Di- μ -chlorodichlorobis[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)hydroborato(1-)-*N*²,*N*^{2'},*N*^{2''}]diiridium; Monomer, *in* B -01327
- C₁₅H₂₂BKN₆**
Tris(3,5-dimethyl-1*H*-pyrazolato-*N'*)hydroborate(1-); K salt, *in* B -00955
- C₁₅H₂₂BLiN₆**
Tris(3,5-dimethyl-1*H*-pyrazolato-*N'*)hydroborate(1-); Li salt, *in* B -00955
- C₁₅H₂₂BN**
1-Boraadamantane 2-methylpyridine, *in* B -00597
- C₁₅H₂₂BN₆[⊖]**
Tris(3,5-dimethyl-1*H*-pyrazolato-*N'*)hydroborate(1-), B -00955
- C₁₅H₂₄BN**
9-Borabicyclo[3.3.1]nonane 2,6-dimethylpyridine, B -00956
9-Borabicyclo[3.3.1]nonane 2-ethylpyridine, B -00957
- C₁₅H₂₅B**
9-Bicyclo[2.2.1]hept-2-yl-9-borabicyclo[3.3.1]nonane, B -00958
- C₁₅H₂₅BCIN₃O**
Dibutyl(5-chloro-2-imino-*N*-methyl-1(2*H*)-pyridinecarboxamidato-*N*^N¹,*N*²)boron, B -00959
- C₁₅H₂₅BN₂**
(*N,N'*-Dimethylbenzenecarboximidamidato-*N,N'*)-diisopropylboron, B -00960
(*N,N'*-Dimethylbenzenecarboximidamidato-*N,N'*)-dipropylboron, B -00961
- C₁₅H₂₅BN₂S**
Diethyl(*N,N*-diethyl-*N'*-phenylthioureato)borane, B -00962
- C₁₅H₂₅BO₃**
7-Methoxymethyl-3-borabicyclo[3.3.1]nonyl acetylacetonate, B -00963
- C₁₅H₂₆BN₃O**
Dibutyl(2-imino-*N*-methyl-1(2*H*)-pyridinecarboxamidato-*N*^N¹,*N*²)boron, B -00964
- C₁₅H₂₇B**
9-[(2-Methylcyclopentyl)methyl]-9-borabicyclo[3.3.1]nonane, B -00965
Tricyclopentylborane, B -00966
- C₁₅H₂₇BN₂O**
Dipropyl[1-(2-pyridinylamino)-1-butanolato]boron, B -00967
- C₁₅H₂₇BN₄**
1-Boraadamantane 1,3,5,7-tetraazaadamantane, *in* B -00597
- C₁₅H₂₇BO**
[(1,3-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-(tetrahydrofuran)boron, *in* B -00733
[(2,4-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-(tetrahydrofuran)boron, *in* B -00732
- C₁₅H₂₇BO₃**
3-Methoxy-7-[[tetrahydro-2*H*-pyran-2-yl]oxy]methyl]-3-borabicyclo[3.3.1]nonane, B -00968
- C₁₅H₂₈B[⊖]**
9-Butyl-9-(2-propenyl)-9-boratabicyclo[3.3.1]nonane, B -00969
Tricyclopentylhydroborate(1-), B -00970
- C₁₅H₂₈BK**
Tricyclopentylhydroborate(1-); K salt, *in* B -00970
- C₁₅H₂₈B⁺Li**
9-Butyl-9-(2-propenyl)-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00969

- Tricyclopentylhydroborate(1-); Li salt, *in* B -00970
 $C_{15}H_{28}BNa$
 Tricyclopentylhydroborate(1-); Na salt, *in* B -00970
 $C_{15}H_{29}BN_2$
 (1-Methyl-2(1*H*)-pyridinimine-*N*²)tripropylboron, B -00971
 $C_{15}H_{29}BO$
 [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-[1,1'-oxybis[ethane]]boron, *in* B -00733
 $C_{15}H_{29}BSn$
 9-[1-(Trimethylstannyl)-2-butenyl]-9-borabicyclo[3.3.1]-nonane, B -00972
 $C_{15}H_{30}BCl$
 (5-Chloro-1-pentenyl)bis(1,2-dimethylpropyl)borane, B -00973
 $C_{15}H_{30}BN$
 1-Boratricyclo[3.3.1.1^{3,7}]decane triethylamine, B -00974
 $C_{15}H_{31}BOS$
 Dibutyl(1-*tert*-butylthio-1-propenyloxy)borane, B -00975
 $C_{15}H_{33}B$
 Triptenylborane, B -00976
 Tris(1,2-dimethylpropyl)borane, B -00977
 $C_{15}H_{33}BO_2$
 Dihexyloxypropylborane, B -00978
 $C_{15}H_{33}BO_3$
 ▶Triptenylborane, B -00979
 $C_{15}H_{34}B^{\ominus}$
 Tris(1,2-dimethylpropyl)hydroborate(1-), B -00980
 $C_{15}H_{34}BK$
 Tris(1,2-dimethylpropyl)hydroborate(1-); K salt, *in* B -00980
 $C_{15}H_{34}BLi$
 Lithium triisooamylborohydride, *in* B -00980
 $C_{15}H_{36}BN$
 Tributylborane trimethylamine, B -00981
 $C_{16}H_8BBR_4CsS_4$
 Tetrakis(5-bromo-2-thienyl)borate(1-); Cs salt, *in* B -00982
 $C_{16}H_8BBR_4S_4^{\ominus}$
 Tetrakis(5-bromo-2-thienyl)borate(1-), B -00982
 $C_{16}H_{12}BCsS_4$
 Tetra-2-thienylborate(1-); Cs salt, *in* B -00983
 $C_{16}H_{12}BS_4^{\ominus}$
 Tetra-2-thienylborate(1-), B -00983
 $C_{16}H_{13}B$
 3-Phenyl-3*H*-benzoborepin, B -00984
 $C_{16}H_{13}BCrO_4$
 Tetracarbonyl[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]chromium, *in* B -00764
 $C_{16}H_{13}BMoO_4$
 Tetracarbonyl[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]molybdenum, *in* B -00764
 $C_{16}H_{13}BO_4W$
 Tetracarbonyl[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]tungsten, *in* B -00764
 $C_{16}H_{15}BCo^{\oplus}$
 (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt(1+), B -00985
 $C_{16}H_{15}BCoF_6P$
 (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt(1+); Hexafluorophosphate, *in* B -00985
 $C_{16}H_{15}BFe$
 (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6- η)-1-phenylboratabenzene]iron, B -00986
 $C_{16}H_{15}BFeO_3$
 Tricarbonyl[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin]iron, B -00987
 $C_{16}H_{16}B_2Fe_2O_4$
 Di- μ -carbonylbis[(1,2,3,4,5,6- η)-1-methylboratabenzene]-diiron, B -00988
 $C_{16}H_{19}B$
 9-(Phenylethynyl)-9-borabicyclo[3.3.1]nonane, B -00989
 $C_{16}H_{19}BFeINO_2$
 (1-*tert*-Butyl-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl)-*B*²,*N*¹'dicarbonyliodoiron, B -00990
 $C_{16}H_{19}BO$
 Butoxydiphenylborane, B -00991
 (2-Methylpropoxy)diphenylborane, B -00992
 $C_{16}H_{19}BS$
 (Butylthio)diphenylborane, B -00993
 $C_{16}H_{21}B$
 9-(2-Phenylethynyl)-9-borabicyclo[3.3.1]nonane, B -00994
 $C_{16}H_{21}B_2FeMnO_3S$
 Tricarbonyl[(η^5 -2,4-cyclopentadien-1-yl)iron][μ -[(1,2,3,4,5- η :1,2,3,4,5- η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole]]-manganese, B -00995
 $C_{16}H_{22}BNO_2$
 3-(2-Aminophenoxy)-7-(methoxymethyl)-3-borabicyclo[3.3.1]-6-nonene, B -00996
 $C_{16}H_{22}BN_8Tl$
 ▶Diethyl[tetrakis(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*²']-thallium, B -00997
 $C_{16}H_{23}B$
 9-(2-Phenylethyl)-9-borabicyclo[3.3.1]nonane, B -00998
 $C_{16}H_{24}BN$
 [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-(pyridine)boron, *in* B -00733
 [(2,4-Dimethyl-1,3,5-cyclohexanetriyl)tris(methylene)]-(pyridine)boron, *in* B -00732
 $C_{16}H_{24}BN_9$
 Tetrakis(1*H*-imidazolato-*N*¹)borate(1-); Tetramethylammonium salt, *in* B -00762
 $C_{16}H_{25}B$
 9-(Cyclohexylethynyl)-9-borabicyclo[3.3.1]nonane, B -00999
 $C_{16}H_{26}BCl_2N_6ORh$
 Dichloro(methanol)[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)-hydroborato(1-)-*N*²,*N*²,*N*²']rhodium, B -01000
 $C_{16}H_{26}BN$
 9-Borabicyclo[3.3.1]nonane 2-isopropylpyridine, B -01001
 $C_{16}H_{27}B$
 9-(Bicyclo[2.2.1]hept-2-ylmethyl)-9-borabicyclo[3.3.1]nonane, B -01002
 9-(1-Octynyl)-9-borabicyclo[3.3.1]nonane, B -01003
 7-Pentyl-3-(2-propenyl)-3-borabicyclo[3.3.1]non-6-ene, B -01004
 $C_{16}H_{29}B$
 9-Cyclooctyl-9-borabicyclo[3.3.1]nonane, B -01005
 9-[3-Methyl-1-(1-methylethyl)-2-butenyl]-9-borabicyclo[3.3.1]nonane, B -01006
 9-(1-Octenyl)-9-borabicyclo[3.3.1]nonane, B -01007
 $C_{16}H_{30}BLiO$
 2-Furanyltris(1-methylpropyl)borate(1-); Li salt, *in* B -01009
 2-Furanyltris(2-methylpropyl)borate(1-); Li salt, *in* B -01010
 $C_{16}H_{30}BN$
 (1,1,2-Trimethylpropyl)borane; PhNEt₂ complex, *in* B -00420
 $C_{16}H_{30}BNO_3$
 Dibutyl[3-(1-hydroxyethenyl)-4-(1-methylethyl)-2-oxazolidinonato-*O*²,*O*³]boron, B -01008
 $C_{16}H_{30}BO^{\ominus}$
 2-Furanyltris(1-methylpropyl)borate(1-), B -01009

- 2-Furanyltris(2-methylpropyl)borate(1[−]), B -01010
- C₁₆H₃₀B₂**
▷9-Borabicyclo[3.3.1]nonane; Dimer, *in* B -00545
- C₁₆H₃₀B₂O₂**
[μ-(1,3,5,7-Cyclooctanetetrayl-*C*¹,*C*⁵:*C*³,*C*⁷)]-dihydrobis(tetrahydrofuran)diboron, *in* B -00543
- C₁₆H₃₀B₁₈Fe[⊕]**
Bis[(7,8,9,10,11-η)-1,2,3,4,5,6,8,9,10,11-decahydro-7-phenyl-7,8-dicarbaundecaborato(2[−])]ferrate(1[−]), B -01011
- C₁₆H₃₁B**
Dicyclopentyl(1,1,2-trimethylpropyl)borane, B -01012
4,8-Dimethyl-2-(1,1,2-trimethylpropyl)-2-borabicyclo[3.3.1]nonane, B -01013
9-Octyl-9-borabicyclo[3.3.1]nonane, B -01014
- C₁₆H₃₂B[⊕]**
9,9-Dibutyl-9-boratabicyclo[3.3.1]nonane, B -01015
4,8-Dimethyl-2-(1,1,2-trimethylpropyl)-2-boratabicyclo[3.3.1]nonane, B -01016
- C₁₆H₃₂BBr**
(1-Bromo-1-hexenyl)bis(1,2-dimethylpropyl)borane, B -01017
- C₁₆H₃₂BLi**
9,9-Dibutyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -01015
4,8-Dimethyl-2-(1,1,2-trimethylpropyl)-2-boratabicyclo[3.3.1]nonane; Li salt, *in* B -01016
- C₁₆H₃₂BLiO**
Tributyl(ethoxyethynyl)borate(1[−]); Li salt, *in* B -01018
- C₁₆H₃₂BO[⊕]**
Tributyl(ethoxyethynyl)borate(1[−]), B -01018
- C₁₆H₃₃B**
Bis(1,2-dimethylpropyl)-1-hexenylborane, B -01019
Butylcyclohexyl(1,1,2-trimethylpropyl)borane, B -01020
3,6-Dimethyl-1-octylborepane, B -01021
- C₁₆H₃₄BN**
(*N,N*-Diethylethanamine)dihydro(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)boron, *in* B -00690
- C₁₆H₃₅B**
Butylhexyl(1,1,2-trimethylpropyl)borane, B -01022
- C₁₆H₃₅BN₂**
Monoisopinocampheylborane; Tetramethylethylenediamine complex, *in* B -00690
- C₁₆H₃₆B[⊕]**
Tetrabutylborate(1[−]), B -01023
- C₁₆H₃₆BClN₂**
Chlorobis(dibutylamino)borane, B -01024
- C₁₆H₃₆BLi**
Tetrabutylborate(1[−]); Li salt, *in* B -01023
- C₁₆H₃₆B₂O**
Oxybis[dibutylborane], B -01025
- C₁₆H₃₇BCl₃N**
▷Trichlorohydroborate(1[−]); Tetrabutylammonium salt, *in* B -00001
- C₁₆H₃₈B₂**
Dibutylborane; Dimer, *in* B -00567
- C₁₆H₃₈B₂N₂**
Dicyclopentyltetrahydro[μ-(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N,N'*)]diboron, *in* B -00328
- C₁₆H₄₀B₄N**
Nonahydrotritetra borate(1[−]); Tetrabutylammonium salt, *in* B -00022
- C₁₆H₄₄B₃N**
Octahydrotriborate(1[−]); Tetrabutylammonium salt, *in* B -00021
- C₁₆H₅₆B₂₀N₂Ti**
Bis[η⁶-decahydro-*C,C'*-dimethyldicarbadodecaborato(2[−])]-titanate(2[−]); Bis(tetramethylammonium) salt, *in* B -00587
- C₁₇H₁₂BNOS₂**
(8-Quinolinolato-*N*¹,*O*⁸)di-2-thienylboron, B -01026
- C₁₇H₁₆BF₆PRu**
(η⁶-Benzene)[(1,2,3,4,5,6-η)-1-phenylboratabenzene]-ruthenium(1⁺); Hexafluorophosphate, *in* B -01028
- C₁₇H₁₆BN**
Diphenylborane pyridine, B -01027
- C₁₇H₁₆BRu[⊕]**
(η⁶-Benzene)[(1,2,3,4,5,6-η)-1-phenylboratabenzene]-ruthenium(1⁺), B -01028
- C₁₇H₁₇BN₂**
Diphenylborane 2-aminopyridine, B -01029
- C₁₇H₁₇BO₂**
(2,4-Pentanedionato-*O,O'*)diphenylboron, B -01030
- C₁₇H₁₈BCo**
(η⁵-2,4-Cyclopentadien-1-yl)[(2,3,6,7-η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]cobalt, *in* B -00764
- C₁₇H₁₉BN₂O₂**
[2-[1-(4,5-Dihydro-1*H*-imidazol-2-yl)-2-phenylethyl]-phenyl]dihydroxyborane, B -01031
- C₁₇H₂₀BFeN**
Dimethylborylferrocene; Py complex, *in* B -00767
- C₁₇H₂₀B₂ClN₂O₂**
[2-[1-(4,5-Dihydro-1*H*-imidazol-2-yl)-2-phenylethyl]-phenyl]dihydroxyborane; B,HCl, *in* B -01031
- C₁₇H₂₁BN₂O**
Hydroxy[2-[[1-(phenylamino)ethylidene]amino]phenyl]-propylboron, B -01032
- C₁₇H₂₂BN₆Rh**
[(1,2,5,6-η)-1,5-Cyclooctadiene][hydrotris(1*H*-pyrazolato-*N*¹)borato(1[−])-*N*²,*N*^{2'}]rhodium, B -01033
- C₁₇H₂₃BF₂N₂O**
[4-Ethyl-2-[3-ethyl-5-methoxy-4-methyl-2*H*-pyrrol-2-ylidene)methyl]-3,5-dimethyl-1*H*-pyrrolato-*N*¹,*N*²]-difluoroboron, B -01034
- C₁₇H₂₄BNO₂S**
[α-Ethyl-α-[(*N*-methyl-*S*-phenylsulfonimidoyl)methyl]-benzenemethanol-*N*]trihydroboron, B -01035
- C₁₇H₂₇BN₂O**
Dibutyl[*N*-(1-iminoethyl)benzamidato-*N,N',O*]boron, B -01036
- C₁₇H₂₇BO**
Dibutyl(1-phenyl-1-propenyloxy)borane, B -01037
- C₁₇H₂₈BN**
1,1-Dibutyl-*N*-(1-phenylpropylidene)boranamine, B -01038
- C₁₇H₂₈BN₃O**
Dipropylboryl-(*N*-methylcarbamoil)-*N,N'*-dimethylbenzamidate, B -01039
- C₁₇H₂₉B**
Dicyclohexyl(3-methyl-1,3-butadienyl)borane, B -01040
- C₁₇H₂₉BN₂**
Dibutyl(*N,N'*-dimethylbenzenecarboximidamidato-*N,N'*)-boron, B -01041
(*N,N*-Dimethylbenzenecarboximidamidato-*N,N'*)bis(2-methylpropyl)boron, B -01042
- C₁₇H₂₉BO**
9-[(1-Cyclohexyl-1-propenyl)oxy]-9-borabicyclo[3.3.1]-nonane, B -01043
- C₁₇H₃₁BOS**
Dicyclopentyl(1-*tert*-butylthio-1-propenyloxy)borane, B -01044
- C₁₇H₃₂BNO₃**
Dibutyl[1-(4-isopropyl-2-oxo-3-oxazolidinyl)propen-1-yloxy]borane, B -01045
- C₁₇H₃₂BNO₃S**
Dibutyl[3-[1-hydroxy-2-(methylthio)ethenyl]-4-(1-methylethyl)-2-oxazolidinonato-*O*²,*O*³]boron, B -01046

$C_{17}H_{33}B$

Bis(2-methylcyclohexyl)propylborane, B -01047

 $C_{18}BF_{16}^{\ominus}$

Fluorotris(pentafluorophenyl)borate(1-), B -01048

 $C_{18}BF_{16}Li$ Fluorotris(pentafluorophenyl)borate(1-); Li salt, *in* B -01048 **$C_{18}H_{13}BN_2O_2$** [[2,2'-Azobis(phenolato)](2-)-*N,O,O'*]phenylboron, B -01049 **$C_{18}H_{13}BN_2O_3$**

[4-[(2-Hydroxyphenyl)azo]-1,3-benzenediolato(2-)]-phenylboron, B -01050

 $C_{18}H_{15}B$

Triphenylborane, B -01051

 $C_{18}H_{15}BBr_3OP$

Tribromoborane triphenylphosphine oxide, B -01052

 $C_{18}H_{15}BBBr_3P$

Tribromoborane triphenylphosphine, B -01053

 $C_{18}H_{15}BCl_3OP$

Trichloroborane triphenylphosphine oxide, B -01054

 $C_{18}H_{15}BCl_3P$

Trichloroborane triphenylphosphine, B -01055

 $C_{18}H_{15}BF_3OP$

Trifluoroborane triphenylphosphine oxide, B -01056

 $C_{18}H_{15}BF_3P$

▷ Trifluoroborane triphenylphosphine, B -01057

 $C_{18}H_{15}BI_3P$

Triiodoborane triphenylphosphine, B -01058

 $C_{18}H_{15}BO_2$

Diphenoxyphenylborane, B -01059

 $C_{18}H_{15}BO_3$

▷ Triphenoxyborane, B -01060

 $C_{18}H_{15}B_3Cl_3N_3$

▷ 2,4,6-Trichloro-1,3,5-triphenylborazine, B -01061

 $C_{18}H_{15}B_3O_3$

Triphenylboroxin, B -01062

 $C_{18}H_{15}B_3O_6$

Triphenoxyboroxin, B -01063

 $C_{18}H_{15}B_3S_3$

Triphenylborthiin, B -01064

 $C_{18}H_{16}B^{\ominus}$

Hydrotriphenylborate(1-), B -01065

 $C_{18}H_{16}BLi$ Hydrotriphenylborate(1-); Li salt, *in* B -01065 **$C_{18}H_{17}BFP$** Fluorodihydro(triphenylphosphine)boron, *in* B -00002 **$C_{18}H_{17}BIP$**

Iodoborane triphenylphosphine, B -01066

 $C_{18}H_{18}BCo$ [(2,3,5,6- η)Bicyclo[2.2.1]hepta-2,5-diene]-[(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt, B -01067 **$C_{18}H_{18}BMnO$** Carbonyl(η^5 -2,4-cyclopentadien-1-yl)[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]manganese, B -01068 **$C_{18}H_{18}BN$**

Borane triphenylamine, B -01069

 $C_{18}H_{18}BNO$

Triphenylborane hydroxylamine, B -01070

 $C_{18}H_{18}BP$

Borane triphenylphosphine, B -01071

 $C_{18}H_{18}B_3N_3$

2,4,6-Triphenylborazine, B -01072

 $C_{18}H_{20}BCo$ (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin]cobalt, *in* B -00848 **$C_{18}H_{22}BF$**

Fluorobis(2,4,6-trimethylphenyl)borane, B -01073

 $C_{18}H_{22}B_2Cl_2N_2$

2,6-Dichloro-2,6-diboraadamantane bis(pyridine), B -01074

 $C_{18}H_{23}BO$

Hydroxybis(2,4,6-trimethylphenyl)borane, B -01075

 $C_{18}H_{24}BN$

Aminobis(2,4,6-trimethylphenyl)borane, B -01076

 $C_{18}H_{26}BN_3$ Dibutyl(*N*-2-pyridinyl-2-pyridinaminato-*N,N,N'*)boron, B -01077 **$C_{18}H_{28}BNO$** 9-Methyl-9-borabicyclo[3.3.1]nonane
4-dimethylaminobenzaldehyde, B -01078 **$C_{18}H_{28}B_2Fe$** Bis(1-*tert*-butylborabenzene)iron, B -01079 **$C_{18}H_{29}B$**

Bis(1,2-dimethylpropyl)(2-phenylethenyl)borane, B -01080

 $C_{18}H_{30}BN$ 1,1-Dibutyl-*N*-(1-phenylbutylidene)boranamine, B -01081 **$C_{18}H_{30}B_2$** 2-Boratricyclo[3.3.1.1^{3,7}]decane; Dimer, *in* B -00598 **$C_{18}H_{30}B_2O_2$** Bis[μ -[3,5-dimethylcyclohexanemethanolato(3-)]]diboron, *in* B -00601 **$C_{18}H_{31}B^{\ominus}$** 9-Isopinocampheyl-9-boratabicyclo[3.3.1]nonane, B -01082
9-(2,6,6-Trimethylbicyclo[3.1.1]hept-3-yl)-9-borabicyclo[3.3.1]nonane, B -01083 **$C_{18}H_{31}BLi$** 9-Isopinocampheyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -01082 **$C_{18}H_{31}BO$** 9-(3,3-Dimethyl-1-butynyl)-9-borabicyclo[3.3.1]nonane; THF complex, *in* B -00907
9-(1-Hexynyl)-9-borabicyclo[3.3.1]nonane; THF complex, *in* B -00908 **$C_{18}H_{32}B$** 1,5-Cyclooctanediylhydro(2,6,6-trimethylbicyclo[3.1.1]-hept-3-yl)borate(1-), *in* B -01082
Tributylphenylborate(1-), B -01084 **$C_{18}H_{32}BBr$**

(1-Bromo-1-hexenyl)dicyclohexylborane, B -01085

 $C_{18}H_{32}BCl_2N$

Phenyldichloroborane tributylamine, B -01086

 $C_{18}H_{32}BLi$ Tributylphenylborate(1-); Li salt, *in* B -01084 **$C_{18}H_{32}BNO_2S$** Trihydro[5-methyl-2-(1-methylethyl)-1-[(*N*-methyl-*S*-phenylsulfonimidoyl)methyl]cyclohexanol-*N*]boron, B -01087 **$C_{18}H_{32}BNSi$** 1,5-Cyclooctanediyl(pyridine)[2-(trimethylsilyl)ethyl]-boron, *in* B -00876 **$C_{18}H_{33}B$** 9-(1-Butyl-1-hexenyl)-9-borabicyclo[3.3.1]nonane, B -01088
[2-(1-Cyclohexen-1-yl)ethenyl]bis(1,2-dimethylpropyl)-borane, B -01089

Dicyclohexyl-1-hexenylborane, B -01090

Tricyclohexylborane, B -01091

Tris(2-methylcyclopentyl)borane, B -01092

 $C_{18}H_{33}BO_3$

Tricyclohexyloxyborane, B -01093

 $C_{18}H_{33}BS$

7-Pentyl-3-pentylthio-3-borabicyclo[3.3.1]non-6-ene, B -01094

- C₁₈H₃₃B₃O₆**
Tris(cyclohexyloxy)boroxin, B -01095
- C₁₈H₃₄B[⊖]**
Hydrotris(2-methylcyclopentyl)borate(1−), B -01096
Tricyclohexylhydroborate(1−), B -01097
- C₁₈H₃₄BK**
Tricyclohexylhydroborate(1−); K salt, *in* B -01097
- C₁₈H₃₄B^{Li}**
Hydrotris(2-methylcyclopentyl)borate(1−); Li salt, *in* B -01096
Tricyclohexylhydroborate(1−); Li salt, *in* B -01097
- C₁₈H₃₄B^{Na}**
Tricyclohexylhydroborate(1−); Na salt, *in* B -01097
- C₁₈H₃₅B**
Dicyclohexyl(1-ethylbutyl)borane, B -01098
Dicyclohexylhexylborane, B -01099
- C₁₈H₃₅BO₃**
Dibutoxy(3,7-dimethyl-1,6-octadien-3-yloxy)borane, B -01100
- C₁₈H₃₆B[⊖]**
Tributyl-1-hexynylborate(1−), B -01101
- C₁₈H₃₆B^{Br}**
(1-Bromo-1-hexenyl)bis(2-methylpentyl)borane, B -01102
(1-Bromo-1-hexenyl)dihexylborane, B -01103
- C₁₈H₃₆B^{Li}**
Tributyl-1-hexynylborate(1−); Li salt, *in* B -01101
- C₁₈H₃₇B**
Bis(1,2-dimethylpropyl)-1-octenylborane, B -01104
- C₁₈H₃₉B**
Bis(1,2-dimethylpropyl)octylborane, B -01105
Dihexyl(1,1,2-trimethylpropyl)borane, B -01106
Trihexylborane, B -01107
Tris(1-ethylbutyl)borane, B -01108
Tris(2-methylpentyl)borane, B -01109
- C₁₈H₃₉BO₃**
▷Trihexyloxyborane, B -01110
- C₁₈H₄₂B₂N₂**
Bis(2-methylcyclopentylborane)
tetramethylethylenediamine, B -01111
Dicyclohexyltetrahydro[μ-(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N:N'*)]diboron, *in* B -00401
- C₁₈H₄₆B₂N₂**
Bis(thexylborane)tetramethylethylenediamine, *in* B -00420
- C₁₉H₃BF₁₅[⊖]**
Methyltris(pentafluorophenyl)borate(1−), B -01112
- C₁₉H₃BF₁₅^{Li}**
Methyltris(pentafluorophenyl)borate(1−); Li salt, *in* B -01112
- C₁₉H₁₅BCsN**
(Cyano-*C*)triphenylborate(1−); Cs salt, *in* B -01115
- C₁₉H₁₅BF₃[⊖]**
Tris(4-fluorophenyl)methylborate(1−), B -01113
- C₁₉H₁₅BF₃^{Li}**
Tris(4-fluorophenyl)methylborate(1−); Li salt, *in* B -01113
- C₁₉H₁₅BFeO₂**
Dicarbonyl(η⁵-2,4-cyclopentadien-1-yl)-
diphenylboraneiron, B -01114
- C₁₉H₁₅BN[⊖]**
(Cyano-*C*)triphenylborate(1−), B -01115
- C₁₉H₁₅B^{Na}**
Cesignost, *in* B -01115
- C₁₉H₁₅BN₂O₂**
[2-[(2-Hydroxyphenyl)azo]-4-methylphenolato(2−)]-
phenylboron, B -01116
- C₁₉H₁₇BNP**
Cyanoborane triphenylphosphine, B -01117
- C₁₉H₁₈B[⊖]**
Methyltriphenylborate(1−), B -01118
- C₁₉H₁₈B^{Li}**
Methyltriphenylborate(1−); Li salt, *in* B -01118
- C₁₉H₁₉BN₂O**
Diphenyl[1-(2-pyridinylamino)ethanolato]boron, B -01119
- C₁₉H₂₀BN**
Ethylidiphenylborane pyridine, *in* B -00886
- C₁₉H₂₀BN₃**
Triphenylborane guanidine, B -01120
- C₁₉H₂₂BCo**
[(1,2,5,6-η)-1,5-Cyclooctadiene][(1,2,3,4,5,6-η)-1-
phenylboratabenzene]cobalt, B -01121
- C₁₉H₂₄BF₆IrN₆O₅**
Aquabis(trifluoroacetato-*O*)[tris(3,5-dimethyl-1*H*-
pyrazolato-*N*¹)hydroborato(1−)-*N*²,*N*^{2'},*N*^{2''}]iridium,
B -01122
- C₁₉H₂₄BF₆N₆O₅Rh**
Aquabis(trifluoroacetato-*O*)[tris(3,5-dimethyl-1*H*-
pyrazolato-*N*¹)hydroborato(1−)-*N*²,*N*^{2'},*N*^{2''}]rhodium,
B -01123
- C₁₉H₂₅B**
Methylbis(2,4,6-trimethylphenyl)borane, B -01124
- C₁₉H₂₅BCl₂N₄**
Dichloro(diethylamino)borane; Py complex (1:3), *in* B -00240
- C₁₉H₂₅BF₆N₆PRh**
[Hydrotris(1*H*-pyrazolato-*N*¹)borato(1−)-*N*²,*N*^{2'},*N*^{2''}](η⁵-
pentamethylcyclopentadienyl)rhodium(1+); Hexafluorophos-
phate, *in* B -01125
- C₁₉H₂₅BN₆Rh[⊖]**
[Hydrotris(1*H*-pyrazolato-*N*¹)borato(1−)-*N*²,*N*^{2'},*N*^{2''}](η⁵-
pentamethylcyclopentadienyl)rhodium(1+), B -01125
- C₁₉H₂₅BO**
Methoxybis(2,4,6-trimethylphenyl)borane, B -01126
- C₁₉H₂₅BS**
(Methylthio)bis(2,4,6-trimethylphenyl)borane, B -01127
- C₁₉H₂₆BN**
(Methylamino)bis(2,4,6-trimethylphenyl)borane, B -01128
- C₁₉H₃₀BN**
9-Phenyl-9-borabicyclo[3.3.1]nonane; Piperidine complex, *in*
B -00896
- C₁₉H₃₂BN**
1-Boraadamantane 1-adamantylamine, *in* B -00597
- C₁₉H₃₃BS**
Dibutyl[1-(phenylthio)pentyl]borane, B -01129
- C₁₉H₃₅BO**
3-(Hexyloxy)-7-pentyl-3-borabicyclo[3.3.1]non-6-ene, B -01130
- C₁₉H₃₅BS**
3-(Hexylthio)-7-pentyl-3-borabicyclo[3.3.1]non-6-ene, B -01131
- C₁₉H₃₈B[⊖]**
Tributyl-1-heptynylborate(1−), B -01132
- C₁₉H₃₈B^{Li}**
Tributyl-1-heptynylborate(1−); Li salt, *in* B -01132
- C₁₉H₃₈B^{LiO}**
(Ethoxyethynyl)tripentylborate(1−); Li salt, *in* B -01133
- C₁₉H₃₈BO[⊖]**
(Ethoxyethynyl)tripentylborate(1−), B -01133
- C₁₉H₄₂B[⊖]**
Trihexylmethylborate(1−), B -01134
- C₁₉H₄₂BCu**
Trihexylmethylborate(1−); Cu(I) salt, *in* B -01134
- C₁₉H₄₂B^{LiO}**
Tris(1,2-dimethylpropyl)hydroborate(1−); Li salt, THF com-
plex, *in* B -00980
- C₁₉H₄₄B₅FeNO₃**
Tricarbonyl[(1,2,5-η)-octahydropentaborato(3−)-*H*²]-
ferrate(1−); Tetrabutylammonium salt, *in* B -00166

C₂₀H₁₅BN₂O₃

[2-[(2-Hydroxy-5-methylphenyl)azo]benzoato(2-)]-phenylboron, B -01135

C₂₀H₁₅BN₂O₄

[2-[(2-Hydroxy-5-methoxyphenyl)azo]benzoato(2-)]-phenylboron, B -01136

C₂₀H₁₈BNO[2-[(Methylimino)methyl]phenolato-*N,O*]diphenylboron, B -01137**C₂₀H₁₉BF₂O**

Diferrocenylhydroxyborane, B -01138

C₂₀H₂₀BBr₈NO₄Bis[3,4,5,6-tetrabromo-1,2-benzenediolato(2-)-*O,O'*]-borate(1-); Tetraethylammonium salt, *in* B -00754**C₂₀H₂₂BP**Ethylborane triphenylphosphine, *in* B -00112**C₂₀H₂₄BO₄[⊖]**Bis(4-*tert*-butyl-1,2-benzenediolato)borate, B -01139**C₂₀H₂₄BO₄Na**Bis(4-*tert*-butyl-1,2-benzenediolato)borate; Na salt, *in* B -01139**C₂₀H₂₆AgB₈P**Triphenylphosphine[(7,8,9-*η*)-undecahydro-5,6-dicarbadeborato(1-)]silver, B -01140**C₂₀H₂₆B₈CuP**(Triphenylphosphine)[(7,8,9-*η*)-undecahydro-5,6-dicarbadeborato(1-)]copper, B -01141**C₂₀H₂₇B**

Ethylbis(2,4,6-trimethylphenyl)borane, B -01142

C₂₀H₂₇BCIN₃ODibutyl(5-chloro-2-imino-*N*-phenyl-1(2*H*)-pyridinecarboxamidato-*N*^{*N*1},*N*^{*N*2})boron, B -01143**C₂₀H₂₇BO**1,5-Cyclooctanedyl(phenylethynyl)(tetrahydrofuran)-boron, *in* B -00989**C₂₀H₂₇BS**

(Ethylthio)bis(2,4,6-trimethylphenyl)borane, B -01144

C₂₀H₂₈BNO₄[1-[(3,4-Dimethoxyphenyl)methyl]-1,2,3,4-tetrahydro-6-methoxy-2-methyl-7-isoquinolinol-*N*^{*N*2}]-trihydroboron, B -01145**C₂₀H₂₈BN₃O**Dibutyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N'*)boron, B -01146**C₂₀H₂₈B₂N₂S₂**Tetramethylbis[*N*-(*N*-phenylethanethioamidato-*N:S*)]-diboron, B -01147**C₂₀H₂₉B**

Dicyclohexyl(2-phenylethenyl)borane, B -01148

C₂₀H₃₀B₂Fe₂N₂O₄Di-*μ*-carbonyldicarbonylbis[(3,4,5-*η*)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B*^{*N*2},*N*^{*N*1}]diiron, B -01149**C₂₀H₃₂B[⊖]**

Tributyl(phenylethynyl)borate(1-), B -01150

C₂₀H₃₂B[⊖]LiTributyl(phenylethynyl)borate(1-); Li salt, *in* B -01150**C₂₀H₃₂B₂Br₈CaO₈**Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O,O'*]-borate(1-); Ca salt, *in* B -00668**C₂₀H₃₅B**

Diisopinocampheylborane, B -01151

C₂₀H₃₅BO1,5-Cyclooctanedyl-1-octynyl(tetrahydrofuran)boron, *in* B -01003**C₂₀H₃₅BO₂**

9-(10-Methoxycarbonyl-1-decenyl)-9-borabicyclo[3.3.1]-nonane, B -01152

C₂₀H₃₇B

Dicyclohexyl-1-octenylborane, B -01153

C₂₀H₃₈BCl

Bis(1-butyl-1-hexenyl)chloroborane, B -01154

C₂₀H₃₈B₂Di-*μ*-hydridihydrobis(2,6,6-trimethylbicyclo[3.3.1]hept-3-yl)diboron, *in* B -00690**C₂₀H₄₀B[⊖]**

Dibutyl-1-hexynyl(1,1,2-trimethylpropyl)borate(1-), B -01155

Ethynyltriethylborate(1-), B -01156

C₂₀H₄₀B[⊖]LiDibutyl-1-hexynyl(1,1,2-trimethylpropyl)borate(1-); Li salt, *in* B -01155Ethynyltriethylborate(1-); Li salt, *in* B -01156**C₂₀H₄₁B**

(1-Butyl-1-hexenyl)bis(1,2-dimethylpropyl)borane, B -01157

Cyclohexyloctyl(1,1,2-trimethylpropyl)borane, B -01158

C₂₀H₄₃BO₁₀

(2-Butoxyethoxy)bis(1,4,7,10-tetraoxaundecyl)borane, B -01159

C₂₀H₄₄B[⊖]

Tetrakis(3-methylbutyl)borate(1-), B -01160

C₂₀H₄₄B₂FeN₂Si₂Bis[(3,4-*η*)-4,5-diethyl-1,2,2,3-tetramethyl-1-aza-2-sila-5-boracyclopent-3-ene-*B*^{*N*5},*N*^{*N*1}]iron, B -01161**C₂₀H₄₈B₇FeNO₄**Tetracarbonyl[*η*²-dodecahydroheptaborato(1-)]ferrate(1-); Tetraethylammonium salt, *in* B -00277**C₂₀H₆₂AuB₁₈N₂**Bis[undecahydro-1,2-dicarbundaecaborato(2-)]aurate(2-); Bis(tetraethylammonium) salt, *in* B -00293**C₂₀H₆₄B₂₀FeN₂**Bis[(7,8,9,10,11,12-*η*)-dodecahydro-7,9-dicarbodecaborato(2-)]ferrate(2-); Bis(tetraethylammonium) salt, *in* B -00304**C₂₁H₉B₃F₁₅N₃**

1,3,5-Trimethyl-2,4,6-tris(pentafluorophenyl)borazine, B -01162

C₂₁H₂₁B

Tribenzylborane, B -01163

Tris(4-methylphenyl)borane, B -01164

C₂₁H₂₁BO₃

▷Tribenzylxyborane, B -01165

Tris(3-methylphenoxy)borane, B -01166

C₂₁H₂₂BO₂P

(Ethoxycarbonyl)borane triphenylphosphine, B -01167

C₂₁H₂₃BNOP*N*-Ethylcarbamoyleborane triphenylphosphine, B -01168**C₂₁H₂₃BN₂O**Triphenylborane *N,N*-dimethylurea, B -01169**C₂₁H₂₄BN**

Trimethylborane triphenylamine, B -01170

Triphenylborane trimethylamine, B -01171

Tris(4-methylphenyl)borane ammonia, B -01172

C₂₁H₂₄B₃N₃

1,3,5-Trimethyl-2,4,6-triphenylborazine, B -01173

C₂₁H₂₈BN₃[*N*-(Iminophenylmethyl)-*N'*-propylbenzenecarboximidamidato-*N',N''*]-dipropylboron, B -01174**C₂₁H₂₉B**

Propylbis(2,4,6-trimethylphenyl)borane, B -01175

C₂₁H₂₉BO

Isopropoxybis(2,4,6-trimethylphenyl)borane, B -01176

- C₂₁H₃₀BN**
(Isopropylamino)bis(2,4,6-trimethylphenyl)borane, B -01177
- C₂₁H₃₀BN₃O**
Dibutyl[N-(2-methylphenyl)-N'-2-pyridinylureato-N,N']-boron, B -01178
Dibutyl[N-(2-methylphenyl)-N'-2-pyridinylureato-N,N',O]-boron, B -01179
- C₂₁H₃₃B**
Tris(bicyclo[2.2.1]hept-2-yl)borane, B -01180
- C₂₁H₃₃BN₂**
N,N'-Diethylboryl-3,3',5,5'-tetramethyl-4,4'-diethyl-2,2'-dipyrromethene, B -01181
- C₂₁H₃₆B[⊖]**
Tricyclopentyl-1-hexynylborate(1-), B -01182
- C₂₁H₃₆BLi**
Tricyclopentyl-1-hexynylborate(1-); Li salt, *in* B -01182
- C₂₁H₃₆BN**
1-Boratricyclo[3.3.1.1^{3,7}]decane compd. with α-methyltricyclo[3.3.1.1^{3,7}]decane-1-methanamine(1:1), *in* B -00597
- C₂₁H₃₆B₁₀PTI**
[η⁴-Dodecahydrodecaborato(2-)]-dimethylmethyltriphenylphosphoniumthallate(1-), *in* B -00157
- C₂₁H₃₇BN₂**
Diisopropylbenzenecarboximidamidato-N,N'-dibutylboron, B -01183
- C₂₁H₃₈B[⊖]**
Diisopinocampheylmethylhydroborate, B -01184
- C₂₁H₃₈BLi**
Diisopinocampheylmethylhydroborate; Li salt, *in* B -01184
- C₂₂H₁₅BN₂O₂**
[1-[(2-Hydroxyphenyl)azo]-2-naphthalenolato(2-)]-phenylboron, B -01185
- C₂₂H₁₆BN₃O₄S**
[4-Hydroxy-3-[(2-hydroxy-1-naphthalenyl)azo]-benzenesulfonamidato(2-)]phenylboron, B -01186
- C₂₂H₁₉BLiN**
Triphenyl-1*H*-pyrrol-1-ylborate(1-); Li salt, *in* B -01187
- C₂₂H₁₉BN[⊖]**
Triphenyl-1*H*-pyrrol-1-ylborate(1-), B -01187
- C₂₂H₁₉BO₂**
Diphenylboryl 1-phenyl-1,3-butanedionate, B -01188
- C₂₂H₂₀B₂Co**
Bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]cobalt, B -01189
- C₂₂H₂₀B₂Fe**
Bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]iron, B -01190
- C₂₂H₂₀B₂Os**
Bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]osmium, B -01191
- C₂₂H₂₀B₂Ru**
Bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]ruthenium, B -01192
- C₂₂H₂₂BN₃O₂**
[5-(Ethylamino)-2-[(2-hydroxy-5-methylphenyl)azo]-4-methylphenolato(2-)]phenylboron, B -01193
- C₂₂H₂₃BN₂O**
Hydroxy[2-[[phenyl(phenylamino)methylene]amino]phenyl]-propylboron, B -01194
- C₂₂H₂₄B[⊖]**
Butyltriphenylborate(1-), B -01195
- C₂₂H₂₄BLi**
Butyltriphenylborate(1-); Li salt, *in* B -01195
- C₂₂H₂₄B₇O₂PRu**
Dicarbonyl[η⁵-nonahydrodicarbanonaborato(4-)]-(triphenylphosphine)ruthenium, B -01196
- C₂₂H₂₆BN**
Triphenylborane 1-butylamine, B -01197
Triphenylborane 2-methylpropylamine, B -01198
- C₂₂H₂₆BN₃O₂**
N¹-[N-(7-Methoxymethyl-3-borabicyclo[3.3.1]non-6-en)-3-yl]-(N-phenylcarbamoyl)pyridon-2-iminate, B -01199
- C₂₂H₂₆BScSi₄**
Bis[(1,2,3,4,5-η)-1,3-bis(trimethylsilyl)-2,4-cyclopentadien-1-yl]tetrahydroboratoscandium, B -01200
- C₂₂H₃₀BN₃**
Dibutyl[N-(iminophenylmethyl)benzenecarboximidamidato-N¹,N²]boron, B -01201
- C₂₂H₃₂B₄FeMn₂O₆S₂**
Hexacarbonylbis[μ-[(1,2,3,4,5-η:1,2,3,4,5-η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole]](iron)dimanganese, B -01202
- C₂₂H₃₃B**
Bis(2-methylcyclohexyl)(2-phenylethenyl)borane, B -01203
- C₂₂H₃₄BCIN₂**
Dibutyl[2-chloro-N-[2-(1-iminoethyl)cyclohexylidene]-benzenaminato-N,N']boron, B -01204
Dibutyl[4-chloro-N-[2-(1-iminoethyl)cyclohexylidene]-benzenaminato-N,N']boron, B -01205
- C₂₂H₃₅BN₂**
Dibutyl[N-[2-(1-iminoethyl)cyclohexylidene]-benzenaminato-N,N']boron, B -01206
- C₂₂H₃₇BN₄**
(N,N''-Dicyclohexyl-N'-2-pyridinylguanidinato-N'',N''')-diethylboron, B -01207
- C₂₂H₃₉BN₄S**
(N,N''-Dicyclohexyl-N''-2-thiazolylguanidinato-N,N''')-bis(1-methylethyl)boron, B -01208
- C₂₂H₄₁B**
(1-Butyl-1-hexenyl)dicyclohexylborane, B -01209
- C₂₂H₄₁BCl₃N**
N,N,N-Tributyl-1-butanaminium trichlorophenylborate(1-), *in* B -00366
- C₂₂H₄₂BLiO**
2-Furanyltrihexylborate(1-); Li salt, *in* B -01210
- C₂₂H₄₂BO[⊖]**
2-Furanyltrihexylborate(1-), B -01210
- C₂₂H₄₃B**
Di-1-octenyl(1,1,2-trimethylpropyl)borane, B -01211
- C₂₂H₄₃BO₇**
Hydrogen[2,3-dihydroxypropyl hexadecanoato(2-)][1,2,3-propanetriolato(2-)-O¹,O²]borate(1-), B -01212
- C₂₂H₄₄BBr**
(1-Bromo-1-hexenyl)diocetylborane, B -01213
- C₂₂H₄₇B**
Diocetyl(1,1,2-trimethylpropyl)borane, B -01214
- C₂₂H₅₄B₂N₂**
Bis(disiamylborane) ethylenediamine, B -01215
- C₂₃H₁₅BN₂O₃**
[2-[(2-Hydroxy-1-naphthalenyl)azo]benzoato(2-)]-phenylboron, B -01216
- C₂₃H₂₀BN**
Triphenylborane pyridine, B -01217
- C₂₃H₂₄BN₃O₂**
[5-(Diethylamino)-2-[(2-hydroxy-4-methylphenyl)azo]-phenolato(2-)]phenylboron, B -01218
[5-(Diethylamino)-2-[(2-hydroxy-5-methylphenyl)azo]-phenolato(2-)]phenylboron, B -01219
- C₂₃H₂₅BN₂S**
(N,N-Diethyl-N'-phenylthioureato)diphenylborane, B -01220
- C₂₃H₂₈B₉NiP**
[Decahydro-7-methyl-π-7-phospha-10-carbaundecaborato(1-)](triphenyl-π-cyclopropenyl)-nickel, B -01221

- $C_{23}H_{37}BN_2$**
Dibutyl[*N*-2-(1-iminoethyl)cyclohexylidene]-4-methylbenzenaminato-*N,N'*]boron, B -01222
- $C_{23}H_{40}AuB_{18}P$**
Bis[undecahydro-1,2-dicarbaundecaborato(2-)]aurate(1-); Methyltriphenylphosphonium salt, *in* B -00292
- $C_{23}H_{40}B^{\ominus}$**
Tricyclopentyl-1-octynylborate(1-), B -01223
- $C_{23}H_{40}BLi$**
Tricyclopentyl-1-octynylborate(1-); Li salt, *in* B -01223
- $C_{23}H_{40}BN_5$**
(*N,N'*-Dicyclohexyl-*N''*-2-pyrimidinylguanidinato-*N,N''*)-bis(1-methylethyl)boron, B -01224
- $C_{23}H_{40}B_{18}CuP$**
Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(1-); Methyltriphenylphosphonium salt, *in* B -00295
- $C_{23}H_{46}B^{\ominus}$**
1-Octynyltripentylborate(1-), B -01225
- $C_{23}H_{46}BLi$**
1-Octynyltripentylborate(1-); Li salt, *in* B -01225
- $C_{24}BF_{20}^{\ominus}$**
Tetrakis(pentafluorophenyl)borate(1-), B -01226
- $C_{24}BF_{20}Li$**
Tetrakis(pentafluorophenyl)borate(1-); Li salt, *in* B -01226
- $C_{24}H_8BBR_8O_4^{\ominus}$**
Bis[3,3',5,5'-tetrabromo[1,1'-biphenyl]-2,2'-diolato(2-)-*O,O'*]borate(1-), B -01227
- $C_{24}H_{16}BCl_4^{\ominus}$**
Tetrakis(4-chlorophenyl)borate(1-), B -01228
- $C_{24}H_{16}BCl_4K$**
Tetrakis(4-chlorophenyl)borate(1-); K salt, *in* B -01228
- $C_{24}H_{16}BF_4^{\ominus}$**
Tetrakis(4-fluorophenyl)borate(1-), B -01229
- $C_{24}H_{16}BF_4Li$**
Tetrakis(4-fluorophenyl)borate(1-); Li salt, *in* B -01229
- $C_{24}H_{19}BN_2O_2$**
[5-Hydroxy-2-(phenylazo)phenoxy]diphenylborane, B -01230
- $C_{24}H_{20}AgB$**
Silver(1+) tetraphenylborate(1-), B -01231
- $C_{24}H_{20}BCs$**
Cesium tetraphenylborate(1-), B -01232
- $C_{24}H_{20}BK$**
Potassium tetraphenylborate(1-), B -01233
- $C_{24}H_{20}BLi$**
Lithium tetraphenylborate(1-), B -01234
- $C_{24}H_{20}BNO$**
[1-[(Methylimino)methyl]-2-naphthalenolato-*N,O*]-diphenylboron, B -01235
- $C_{24}H_{20}BN_3O$**
Diphenylboryl-[1-(phenylcarbonyl)pyridone-2-iminate], B -01236
Diphenyl(*N*-phenyl-*N'*-2-pyridinylureato-*N''*,*O*)boron, B -01237
Diphenyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N''*)boron, B -01238
- $C_{24}H_{20}BRb$**
Rubidium tetraphenylborate(1-), B -01239
- $C_{24}H_{20}BTl$**
Thallium(1+) tetraphenylborate(1-), B -01240
- $C_{24}H_{20}B_2O$**
Oxybis[diphenylborane], B -01241
- $C_{24}H_{21}B_3O_3$**
Tris(4-ethenylphenyl)boroxin, B -01242
- $C_{24}H_{24}B^{\ominus}$**
1-Hexynyltriphenylborate(1-), B -01243
- $C_{24}H_{24}BLi$**
1-Hexynyltriphenylborate(1-); Li salt, *in* B -01243
- $C_{24}H_{24}BN$**
Ammonium tetraphenylborate(1-), B -01244
- $C_{24}H_{26}BClO$**
(4-Chlorophenoxy)bis(2,4,6-trimethylphenyl)borane, B -01245
- $C_{24}H_{26}B_2Ni$**
Bis[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]-nickel, *in* B -00764
- $C_{24}H_{26}B_2Pd$**
Bis[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]-palladium, *in* B -00764
- $C_{24}H_{26}B_2Pt$**
Bis[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]-platinum, *in* B -00764
- $C_{24}H_{27}BO$**
Phenoxybis(2,4,6-trimethylphenyl)borane, B -01246
- $C_{24}H_{27}BS$**
(Phenylthio)bis(2,4,6-trimethylphenyl)borane, B -01247
- $C_{24}H_{28}BCsS_4$**
Tetrakis(2,5-dimethyl-3-thienyl)borate(1-); Cs salt, *in* B -01249
- $C_{24}H_{28}BN$**
(Phenylamino)bis(2,4,6-trimethylphenyl)borane, B -01248
- $C_{24}H_{28}BS_4^{\ominus}$**
Tetrakis(2,5-dimethyl-3-thienyl)borate(1-), B -01249
- $C_{24}H_{30}BN$**
Triphenylborane triethylamine, B -01250
- $C_{24}H_{33}BN_2$**
Dibutyl(2-methyl-1,3-diphenyl-1,3-propanediiminato-*N,N'*)boron, B -01251
- $C_{24}H_{41}BN_4$**
(*N,N''*-Dicyclohexyl-*N'*-2-pyridinylguanidinato-*N''*,*N''*)-dipropylboron, B -01252
- $C_{24}H_{42}B^{\ominus}$**
Dicyclohexyl-1-hexenyl-1-hexynylborate(1-), B -01253
Tricyclohexyl-1-hexynylborate(1-), B -01254
- $C_{24}H_{42}BLi$**
Dicyclohexyl-1-hexenyl-1-hexynylborate(1-); Li salt, *in* B -01253
Tricyclohexyl-1-hexynylborate(1-); Li salt, *in* B -01254
- $C_{24}H_{45}BO_7$**
Hydrogen [2,3-dihydroxypropyl 9-octadecenoato(2-)]-[1,2,3-propanetriolato(2-)-*O^1,O^2*]borate(1-), B -01255
- $C_{24}H_{47}BO_7$**
Hydrogen [2,3-dihydroxypropyl octadecanoato(2-)]-[1,2,3-propanetriolato(2-)-*O^1,O^2*]borate(1-), B -01256
- $C_{24}H_{48}B^{\ominus}$**
Trihexyl-1-hexynylborate(1-), B -01257
- $C_{24}H_{48}BLi$**
Trihexyl-1-hexynylborate(1-); Li salt, *in* B -01257
- $C_{24}H_{51}B$**
Trioctylborane, B -01258
- $C_{24}H_{51}BO_3$**
▷ Trioctyloxyborane, B -01259
▷ Tris(2-ethylhexyloxy)borane, B -01260
- $C_{24}H_{51}BO_{12}$**
Bis(1,4,7,10-tetraoxaundecyl)(1,4,7,10-tetraoxatetradecyl)borane, B -01261
(2-Butoxyethoxy)bis(1,4,7,10,13-pentaoxatetradecyl)borane, B -01262
- $C_{24}H_{52}BNO_4S_2$**
Hydrogen bis[3-mercapto-1,2-propanediolato(2-)-*O,O'*]borate(1-) compd. with 1-octadecanamine (1:1), *in* B -00399
- $C_{25}H_{14}BBR_8N_3O_4$**
Hydrogen bis[3,3',5,5'-tetrabromo[1,1'-biphenyl]-2,2'-diolato(2-)-*O,O'*]borate(1-) compd. with guanidine (1:1), *in* B -01227

C₂₅H₂₁BN₂O₂

Diphenyl[2-(2-hydroxy-4-methylphenylazo)phenoxy]borane, B -01263

C₂₅H₂₁BN₂O₃

Diphenyl[2-(2-hydroxy-4-methoxyphenylazo)phenoxy]borane, B -01264

C₂₅H₂₂BN₃O[*N*-(2-Methylphenyl)-*N'*-2-pyridinylureato-*N''*,*O*]-diphenylboron, B -01265**C₂₅H₂₃B₂N**

Bis(diphenylboryl)methylamine, B -01266

C₂₅H₂₆B[⊖]

1-Heptynyltriphenylborate(1−), B -01267

C₂₅H₂₆BLi1-Heptynyltriphenylborate(1−); Li salt, *in* B -01267**C₂₅H₂₆BN₃**

Guanidinium tetraphenylborate, B -01268

C₂₅H₂₉BO₂

4-Methoxyphenoxybis(2,4,6-trimethylphenyl)borane, B -01269

C₂₅H₂₉BS(Benzylthio)bis(2,4,6-trimethylphenyl)borane, B -01270
(4-Methylphenylthio)bis(2,4,6-trimethylphenyl)borane, B -01271**C₂₅H₃₀BN**

(Benzylamino)bis(2,4,6-trimethylphenyl)borane, B -01272

C₂₅H₄₄BN₅Dibutyl(*N,N'*-dicyclohexyl-*N''*-2-pyrimidinylguanidinato-*N,N''*)boron, B -01273**C₂₅H₅₀B[⊖]**

1-Heptynyltriethylborate(1−), B -01274

C₂₅H₅₀BLi1-Heptynyltriethylborate(1−); Li salt, *in* B -01274**C₂₅H₇₀BIrOP₂Si₆**Carbonyl[tetrahydroborato(1−)-*H,H'*]-bis[tris[(trimethylsilyl)methyl]phosphine]-iridium, B -01275**C₂₆H₂₀B₂F₄O₆**

Tetrafluoro[μ-[[1,1'-(1,3-phenylene)bis[3-(4-methoxyphenyl)-1,3-propanedionato]](2−)]]diboron, B -01276

C₂₆H₂₀B₂Fe₂O₄

Di-μ-carbonyldicarbonylbis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]diiron, B -01277

C₂₆H₂₂BTl▷Di-9*H*-fluoren-9-yl[tetrahydroborato(1−)-*H,H'*]thallium, B -01278**C₂₆H₂₆BTl**▷Dimethyl(tetraphenylborato-*B*)thallium, B -01279**C₂₆H₃₀B₂Ni**Bis[(2,3,5,6-η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-*B*]nickel, *in* B -00848**C₂₆H₃₀B₂Pd**Bis[(2,3,5,6-η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-*B*]palladium, *in* B -00848**C₂₆H₃₀B₂Pt**Bis[(2,3,5,6-η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-*B*]platinum, *in* B -00848**C₂₆H₄₂B₄Fe₂S₂Zn**Bis-μ-[(η⁵-2,4-cyclopentadien-1-yl)bis[μ-[(3,4-η:3,4-η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole-*B*²,*B*³,*S*¹:*B*²,*B*⁵,*S*¹]]diiron]zinc, B -01280**C₂₆H₄₂B₄Fe₃S₂**Bis(η⁵-2,4-cyclopentadien-1-yl)bis[μ-[(3,4-η:3,4-η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole-*B*²,*B*³,*S*¹:*B*²,*B*⁵,*S*¹]]triiron, B -01281**C₂₆H₄₄B[⊖]**

Trihexyl(phenylethynyl)borate(1−), B -01282

C₂₆H₄₄BLiTrihexyl(phenylethynyl)borate(1−); Li salt, *in* B -01282**C₂₆H₄₅BN₄**Dibutyl(*N,N''*-dicyclohexyl-*N'*-2-pyridinylguanidinato-*N'',N''*)boron, B -01283**C₂₆H₅₂B[⊖]**Diethyl-1-octynyl(1,1,2-trimethylpropyl)borate(1−), B -01284
Trihexyl-1-octynylborate(1−), B -01285**C₂₆H₅₂BLi**Diethyl-1-octynyl(1,1,2-trimethylpropyl)borate(1−); Li salt, *in* B -01284
Trihexyl-1-octynylborate(1−); Li salt, *in* B -01285**C₂₆H₅₄B₂N₂**

Bis(monoisopinocampheylborane)tetramethylethylenediamine, B -01286

C₂₆H₅₅BO₁₃

Bis(1,4,7,10,13-pentaoxatetradecyl)(1,4,7-trioxaundecyl)borane, B -01287

C₂₇H₂₀BN₃O

Diphenyl[1-(2-pyridinylazo)-2-naphthalenolato]boron, B -01288

C₂₇H₂₁BO₂(1,3-Diphenyl-1,3-propanedionato-*O,O'*)diphenylboron, B -01289**C₂₇H₂₄BN₃**Diphenylboryl(*N*-methylbenzimidoyl)benzaminate, B -01290**C₂₇H₂₆BN₃O₄**Hydrogenbis[1,2-benzenediolato(2−)-*O,O'*]borate(1−) compd. with *N,N'*-bis(2-methylphenyl)-guanidine(1:1), *in* B -00757**C₂₇H₃₃B**

Tris(2,4,6-trimethylphenyl)borane, B -01291

C₂₇H₃₇BN₂Dibutyl[*N*-(2-iminophenylmethyl)cyclohexylidene]-benzenaminato-*N,N'*]boron, B -01292**C₂₇H₃₉BCl₂N₂**Dibutyl[*N*-(2-iminophenylmethyl)cyclohexylidene]-benzenaminato-*N,N'*]boron; B,2HCl, *in* B -01292**C₂₇H₅₄BN**1-Boraadamantane octadecanamine, *in* B -00597**C₂₇H₅₇B**

Trinonylborane, B -01293

C₂₇H₅₇BO₃

Trinonyloxyborane, B -01294

C₂₈H₁₆BF₁₂[⊖]Tetrakis[3-(trifluoromethyl)phenyl]borate(1−), B -01295
Tetrakis[4-(trifluoromethyl)phenyl]borate(1−), B -01296**C₂₈H₁₆BF₁₂Li**Tetrakis[3-(trifluoromethyl)phenyl]borate(1−); Li salt, *in* B -01295
Tetrakis[4-(trifluoromethyl)phenyl]borate(1−); Li salt, *in* B -01296**C₂₈H₂₁BN₂O**

Diphenyl[1-(phenylazo)-2-naphthoxy]borane, B -01297

C₂₈H₂₂BN₃

Diphenyl[1-(phenylazo)-2-naphthylamino]borane, B -01298

C₂₈H₂₄BFe

Ferroceniumyltriphenylborate(1−), B -01299

C₂₈H₂₄B₂F₄O₄Tetrafluoro[μ-[[1,1'-(1,4-phenylene)bis[3-(4-ethylphenyl)-1,3-propanedionato]](2−)-*O*¹,*O*³:*O*¹,*O*³]]diboron, B -01300**C₂₈H₂₈BNaO₄**Tetrakis(benzyloxy)borate; Na salt, *in* B -01301

- C₂₈H₂₈BO₄[⊖]**
Tetrakis(benzyloxy)borate, B -01301
- C₂₈H₂₈BRh**
Bis(ethylene)[tetraphenylborato(1−)]rhodium, B -01302
- C₂₈H₃₀BNO**
Morpholinium tetraphenylborate, B -01303
- C₂₈H₃₂BN**
Tetramethylammonium tetraphenylborate, B -01304
- C₂₈H₃₅BN₂O₂**
1,5-Cyclooctanediyl[4,4-dimethyl-*N*-phenyl-*N*-[(phenylamino)carbonyl]-2-pentenamido-*O,O'*]-boron, B -01305
1,5-Cyclooctanediyl[*N*-phenyl-*N*-[(phenylamino)carbonyl]-2-heptenamido-*O,O'*]boron, B -01306
- C₂₈H₃₅BN₄S**
(*N,N'*-Dicyclohexyl-*N''*-2-thiazolylguanidinato-*N,N,N''*)-diphenylboron, B -01307
- C₂₈H₃₅BO**
4-*tert*-Butylphenoxybis(2,4,6-trimethylphenyl)borane, B -01308
- C₂₈H₃₆B₂O₂₂Zn**
Bis[2-hydroxybenzoato(2−)-*O*¹,*O*²]borate(1−); Zn salt, decahydrate, *in* B -00883
- C₂₈H₄₇BN₂O₂**
[*N*-Cyclohexyl-*N*-[(cyclohexylamino)carbonyl]-2-heptenamido-*O,O'*]-1,5-cyclooctanediylboron, B -01309
- C₂₈H₇₈B₁₄P₄Ru₂**
Bis[μ-[(η⁶-nonahydrodicarbanonaborato(2−)-*B,H*)]-tetrakis(triethylphosphine)diruthenium, *in* B -00941
- C₂₉H₂₅BFe**
(η⁵-2,4-Cyclopentadien-1-yl)[(η⁶-phenyl)-triphenylborato(1−)]iron, B -01310
- C₂₉H₂₅BRu**
(η⁵-2,4-Cyclopentadien-1-yl)[(η⁶-phenyl)-triphenylborato(1−)]ruthenium, B -01311
- C₂₉H₂₆BN**
Pyridinium tetraphenylborate, B -01312
- C₂₉H₂₉BO₂**
3-(1,3-Diphenyl-1,3-propanedionato)-3-borabicyclo[3.3.1]nonane, B -01313
- C₂₉H₃₂BNO**
N-Methylmorpholinium tetraphenylborate, B -01314
- C₂₉H₃₅BN₂**
Dibutyl[*N*-(3-imino-1,3-diphenylpropylidene)-benzenaminato-*N,N'*]boron, B -01315
- C₂₉H₃₆BN₅**
(*N,N'*-Dicyclohexyl-*N''*-2-pyrimidinylguanidinato-*N,N,N''*)-diphenylboron, B -01316
- C₂₉H₄₉BN₄**
[*N*-[(Cyclohexylamino)(cyclohexylimino)methyl]-*N'*-(1-methylethyl)benzenecarboximidamido]-dipropylboron, B -01317
- C₃₀H₂₁B**
Tri-1-naphthylborane, B -01318
- C₃₀H₂₄BN**
Tri-1-naphthylborane; NH₃ complex, *in* B -01318
- C₃₀H₂₇BFe₃**
Triferrocenylboron, B -01319
- C₃₀H₂₇BRu**
[(1,2,3,4,5-η)-1-Methyl-2,4-cyclopentadien-1-yl][(η⁶-phenyl)triphenylborato(1−)]ruthenium, B -01320
- C₃₀H₃₀BFe₃N**
Triferrocenylboron; NH₃ adduct, *in* B -01319
- C₃₀H₃₀B₃Fe₃N₃**
2,4,6-Triferrocenylborazine, B -01321
- C₃₀H₃₁BN₂**
2-Ethyl-4-methylimidazolium tetraphenylborate, B -01322
- C₃₀H₃₂B₂N₂S₂**
Tetramethylbis[μ-(*N*-phenylbenzenecarbothioamidato-*N,S*)]-diboron, B -01323
- C₃₀H₃₆BN**
Triethylammonium tetraphenylborate, B -01324
- C₃₀H₃₇BN₄**
(*N,N''*-Dicyclohexyl-*N'*-2-pyridinylguanidinato-*N'',N,N''*)-diphenylboron, B -01325
- C₃₀H₃₈BO₆P₂Rh**
[(η⁶-Phenyl)triphenylborato(1−)]bis(trimethylphosphite-*P*)rhodium, B -01326
- C₃₀H₄₄B₂Cl₄Ir₂N₁₂**
Di-μ-chlorodichlorobis[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)hydroborato(1−)-*N*²,*N*^{2'},*N*^{2''}]diiridium, B -01327
- C₃₀H₆₀B[⊖]**
1-Hexynyltriocetylborate(1−), B -01328
- C₃₀H₆₀BLi**
1-Hexynyltriocetylborate(1−); Li salt, *in* B -01328
- C₃₀H₆₃B**
Tris(decyl)borane, B -01329
- C₃₀H₆₃BO₃**
Tri(decyloxy)borane, B -01330
- C₃₁H₂₈BN₃**
(*N,N'*-Diphenylguanidine-*N''*)triphenylboron, B -01331
- C₃₁H₂₈BRh**
[(2,3,5,6-η)-Bicyclo[2.2.1]hepta-2,5-diene][(η⁶-phenyl)-triphenylborato(1−)]rhodium, B -01332
- C₃₁H₂₈BTl**
▷ Methyl(phenyl)(tetraphenylborato-*B*)thallium, B -01333
- C₃₁H₃₅B₂NO₂**
5-Diisopropyliminio-2,2,4,4-tetraphenyl-2,4-diborata-1-oxa-3-oxoniacyclopentane, B -01334
- C₃₁H₅₃BN₄**
[*N*-[(Cyclohexylamino)(cyclohexylimino)methyl]-*N'*-(1-methylethyl)benzenecarboximidamido]bis(2-methylpropyl)boron, B -01335
- C₃₂H₃₁BRu**
[(1,2,3,5,6-η)-2,5-Cyclooctadien-1-yl][(η⁶-phenyl)-triphenylborato(1−)]ruthenium, B -01336
- C₃₂H₃₁BS₂**
[2-(1,3-Benzodithiol-2-yl)-1-phenyl-1-heptenyl]-diphenylborane, B -01337
- C₃₂H₃₂BRh**
[(1,2,5,6-η)-1,5-Cyclooctadiene][(η⁶-phenyl)-triphenylborato(1−)]rhodium, B -01338
- C₃₂H₃₅B₉Pd**
(1,2,3,4-Tetraphenyl-1,3-cyclobutadiene)[nonahydro-1,2-dimethyl-1,2-dicarbaundecaborato(2−)]palladium, B -01339
- C₃₂H₃₈B₂Fe₂N₂O₄**
Di-μ-carbonyldicarbonylbis[(3,4,5-η)-1-(1,1-dimethylethyl)-2,3-dihydro-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl-*B*²,*N*¹]diiron, B -01340
- C₃₂H₇₂BN**
Tetrabutylborate(1−); Tetrabutylammonium salt, *in* B -01023
- C₃₃H₂₈BTl**
Methyl(phenylethynyl)tetraphenylborato-*B*)thallium, B -01341
- C₃₃H₃₄BN**
Phenyltrimethylammonium tetraphenylborate, B -01342
- C₃₄H₂₅B**
Pentaphenylborole, B -01343
- C₃₄H₃₄BN₃**
4-(Diethylamino)benzenediazonium tetraphenylborate(1−), B -01344
(*N,N'*-Diphenylguanidine-*N''*)tris(2-methylphenyl)boron, B -01345

- (*N,N'*-Diphenylguanidine-*N''*)tris(3-methylphenyl)boron, B -01346
 (*N,N'*-Diphenylguanidine-*N''*)tris(4-methylphenyl)boron, B -01347
- C₃₄H₃₄BN₃O₃**
 (*N,N'*-Diphenylguanidine-*N''*)tris(2-methoxyphenyl)boron, B -01348
 (*N,N'*-Diphenylguanidine-*N''*)tris(4-methoxyphenyl)boron, B -01349
- C₃₄H₃₅B₁₀IrNOP**
 Benzonitrilecarbonyl(triphenylphosphine)[7-phenyl-1,7-dicarba-*closo*-dodecaborane(12)]iridium, B -01350
- C₃₅H₃₉BN₂**
 4-Diethylamino-2-methylphenylammonium tetraphenylborate, B -01351
- C₃₆H₂₅BNiO₂**
 Dicarbonyl[(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]nickel, *in* B -01343
- C₃₆H₃₄BCuP₂**
 [Tetrahydroborato(1-)-*H,H'*]bis(triphenylphosphine)-copper, B -01353
- C₃₆H₃₉BN₂O₂**
 1,5-Cyclooctanediyl[*N*-1-naphthalenyl-*N'*[(1-naphthalenylamino)carbonyl]-2-heptenamido-*O,O'*]-boron, B -01354
- C₃₆H₄₈BN**
 Tetrapropylammonium tetraphenylborate, B -01355
- C₃₆H₇₁BNiP₂**
 Hydro[tetrahydroborato(1-)-*H,H'*]-bis(tricyclohexylphosphine)nickel, B -01356
- C₃₆H₇₁BP₂Pd**
 Hydro[tetrahydroborato(1-)-*H,H'*]-bis(tricyclohexylphosphine)palladium, B -01357
- C₃₆H₇₅BO₃**
 Bis(octadecyloxy)hydroxyborane, B -01358
 ▸ Tridodecyloxyborane, B -01359
- C₃₆H₈₆B₁₈Cl₂Li₂O₈U**
 Dichlorobis[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato]uranate(2-); Di-Li salt, octa-THF complex, *in* B -00294
- C₃₇H₂₅BFeO₃**
 Tricarbonyl[(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]iron, B -01360
- C₃₇H₃₄BOP₂Rh**
 Carbonyl[tetrahydroborato(1-)-*H,H'*]-bis(triphenylphosphine)rhodium, B -01361
- C₃₇H₄₀BN₃**
 Tris(2,5-dimethylphenyl)borane *N,N'*-diphenylguanidine, B -01362
- C₃₇H₄₀BN₃O₃**
 (*N,N'*-Diphenylguanidine-*N''*)tris(2-ethoxyphenyl)boron, B -01363
 (*N,N'*-Diphenylguanidine-*N''*)tris(4-ethoxyphenyl)boron, B -01364
- C₃₇H₄₁BN₂O₂**
 4-(Ethoxycarbonyl)-3-diethylaminophenylammonium tetraphenylborate, B -01365
- C₃₈H₃₃BNOP₂Rh**
 Carbonyl[(cyano-*C*)trihydroborato(1-)-*N*]-bis(triphenylphosphine)rhodium, B -01366
- C₃₈H₃₉B₇P₂Ru**
 [(4,5,6,7,8,9- η)-Nonahydro-6,8-dicarbanonaborato(4-)]-bis(triphenylphosphine)ruthenium, B -01367
- C₃₈H₄₁AgB₈P₂**
 Bis(triphenylphosphine)[(7,8,9- η)undecahydro-5,6-dicarbadecaborato(1-)]silver, B -01368
- C₃₈H₄₂B₉ClP₂Ru**
 Chlorohydrobis(triphenylphosphine)[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]-ruthenium, B -01369
 Chlorohydrobis(triphenylphosphine)[(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)]-ruthenium, B -01370
- C₃₈H₄₃B₉P₂Ru**
 Dihydrobis(triphenylphosphine)[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]-ruthenium, B -01371
 Dihydrobis(triphenylphosphine)[(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)]-ruthenium, B -01372
- C₃₈H₅₄B₂N₆O₄**
 (*N,N'*-Hexamethylenyl-1,6)-di[7-methoxymethyl-3-borabicyclo[3.3.1]non-6-en-3-yl-(*N*-carbamoilpyridon-2-imine)], B -01373
- C₃₈H₇₂BO₈[⊖]**
 Bis[2,3-dihydroxypropyl hexadecanoato(2-)]borate(1-), B -01374
- C₃₈H₇₃BO₈**
 Hydrogen bis[2,3-dihydroxypropyl hexadecanoato(2-)]-borate(1-), *in* B -01374
- C₃₉H₃₀BCo**
 (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]cobalt, *in* B -01343
- C₃₉H₄₁B₉OP₂Ru**
 Carbonylbis(triphenylphosphine)[(7,8,9,10,11- η)undecahydro-7,8-dicarbaundecaborato(2-)]-ruthenium, B -01375
 Carbonylbis(triphenylphosphine)[(7,8,9,10,11- η)undecahydro-7,9-dicarbaundecaborato(2-)]-ruthenium, B -01376
- C₃₉H₄₃AgBP**
 Tris(methyldiphenylphosphine)[tetrahydroborato(1-)-*H*]-silver, B -01377
- C₃₉H₄₃BCuP**
 Tris(methyldiphenylphosphine)[tetrahydroborato(1-)-*H*]-copper, B -01378
- C₃₉H₅₄BN**
 Dodecyltrimethylammonium tetraphenylborate, B -01379
- C₄₀H₃₆B₂N₂S₂**
 Tetraphenylbis[μ -(*N*-phenylethanethioamidato-*N:S*)]-diboron, B -01380
- C₄₀H₅₂Ag₂B₁₆P₂**
 11-Bis[triphenylphosphine-11-argenta-5,6-dicarbaundecaborane(11)], *in* B -01140
- C₄₀H₅₆BN**
 Tetrabutylammonium tetraphenylborate, B -01381
- C₄₀H₆₀BNaO₁₄**
 Aplasmomycin; Na salt, *in* B -01382
- C₄₀H₆₀BO₁₄[⊖]**
 ▸ Aplasmomycin, B -01382
- C₄₀H₆₄BO₁₄[⊖]**
 O²⁷.De(2-amino-3-methyl-1-oxobutyl)boromycin, *in* B -01391
- C₄₀H₇₀B₂**
 Diisopinocampheylborane; Dimer, *in* B -01151
- C₄₀H₈₈BN**
 Tetrakisopentylammonium tetrakisopentylborate, *in* B -01160
- C₄₁H₃₆BO₂**
 3-*tert*-Butyl-5-triphenylmethyl-1,2-benzenediolatodiphenylboron, B -01383
- C₄₁H₃₉BP₂Ru**
 (η^5 -2,4-Cyclopentadien-1-yl)[tetrahydroborato(1-)-*H*]-bis(triphenylphosphine)ruthenium, B -01384
- C₄₂H₃₇BPt**
 [(1,2,5,6- η)-1,5-Cyclooctadiene][(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]platinum, *in* B -01343
- C₄₂H₇₈B₂N₂**
 Ethylenediamine bis(diisopinocampheylborane), B -01385
- C₄₂H₈₀BO₈[⊖]**
 Bis[2,3-dihydroxypropyl octadecanoato(2-)]borate(1-), B -01386
- C₄₂H₈₁BO₈**
 Hydrogen bis[2,3-dihydroxypropyl octadecanoato(2-)]-borate(1-), *in* B -01386

C₄₃H₃₈BP

Methyltriphenylphosphonium tetraphenylborate(1–), B -01387

C₄₃H₆₂BNButyltris(3-methylbutyl)ammonium tetraphenylborate,
B -01388**C₄₄H₆₄BN**

Tetrakis(3-methylbutyl)ammonium tetraphenylborate, B -01389

C₄₅H₄₅B₁₀IrOP₂Carbonyl(7-phenyl-1,7-dicarbadodecaboran(12)-1-yl)-
bis(triphenylphosphine)iridium, B -01390**C₄₅H₇₄BNO₁₅**

▷Boromycin, B -01391

C₄₈H₃₅B1,2,3,4,5,6,7-Heptaphenyl-7-borabicyclo[2.2.1]hepta-
2,5-diene, B -01392**C₄₈H₄₀AsB**

Tetraphenylarsonium(1+) tetraphenylborate(1–), B -01393

C₄₈H₄₀BP

Tetraphenylphosphonium tetraphenylborate(1–), B -01394

C₄₉H₅₀BN₃Tris[(4-dimethylamino)phenyl]methylum
tetraphenylborate, B -01395**C₅₀H₄₄BP₂Rh**[1,2-Ethanediybis(diphenylphosphine)-*P,P'*][(η^6 -phenyl)-
triphenylborato(1–)]rhodium, B -01396**C₅₄H₁₁₁BO₃**

▷Trioctadecyloxyborane, B -01397

C₅₅H₅₂BO₂P₂Rh[(2,2-Dimethyl-1,3-dioxolane-4,5-diyl)bis(methylene)]-
bis[diphenylphosphine]-*P,P'*][(η^6 -phenyl)-
triphenylborato(1–)]rhodium, B -01398

CAS Registry Number Index

- 74-94-2 ▶ Borane dimethylamine, B -00138
75-22-9 ▶ Borane trimethylamine, B -00203
75-23-0 ▶ Trifluoroborane ethylamine, B -00116
97-94-9 ▶ Triethylborane, B -00419
98-80-6 ▶ Phenyldihydroxyborane, B -00380
101-36-0 Tributoxyboroxin, B -00827
102-24-9 ▶ Trimethoxyboroxin, B -00189
109-63-7 ▶ Trifluoroborane diethyl ether, B -00243
110-51-0 ▶ Borane pyridine, B -00323
121-43-7 ▶ Trimethoxyborane, B -00180
122-56-5 ▶ Tributylborane, B -00813
150-46-9 ▶ Triethoxyborane, B -00429
274-07-7 1,3,2-Benzodioxaborole, B -00370
280-64-8 9-Borabicyclo[3.3.1]nonane, B -00545
287-87-6 Borole, B -00217
289-53-2 Borinane, B -00327
289-56-5 Boroxin, B -00019
325-51-9 Trifluoroborane methyl benzoate, B -00516
350-70-9 Tris(trifluoroacetoxy)borane, B -00357
353-41-3 Trifluoroborane ethanol, B -00102
353-42-4 ▶ Trifluoroborane dimethyl ether, B -00101
353-46-8 Fluorodimethylborane, B -00099
358-95-2 Difluorovinylborane, B -00081
367-46-4 Fluorodimethoxyborane, B -00100
368-39-8 ▶ Triethyloxonium tetrafluoroborate, B -00424
368-98-9 Difluorophenylborane, B -00367
372-44-1 Trifluoroborane phenol, B -00374
372-53-2 Butyldifluoroborane, B -00231
372-84-9 Butoxydifluoroborane, B -00232
373-57-9 Trifluoroborane methanol, B -00063
373-61-5 Acetic acid compd. with trifluoroborane(2:1), *in* B -00221
373-64-8 Difluoromethylborane, B -00055
381-57-7 Ethyldifluoroborane; Me₃N complex, *in* B -00088
381-59-9 Difluoromethoxyborane, B -00056
383-90-4 Bis(dimethylamino)fluoroborane, B -00266
392-73-4 (Diethylamino)difluoroborane, B -00242
407-76-1 Trifluoroborane pyridine, B -00309
420-20-2 Trifluoroborane trimethylamine, B -00173
420-21-3 Trifluoroborane trimethylphosphine, B -00174
430-41-1 Ethyldifluoroborane, B -00088
436-59-9 Fluorobis(2,4,6-trimethylphenyl)borane, B -01073
456-31-5 Trifluoroborane methoxybenzene, B -00466
462-34-0 Trifluoroborane tetrahydrofuran, B -00226
589-69-5 ▶ Dibutylfluoroborane, B -00564
592-39-2 Trifluoroborane piperidine, B -00330
592-71-2 Difluorohexylborane, B -00407
593-04-4 Trifluoroborane dibutyl ether, B -00565
593-90-8 ▶ Trimethylborane, B -00167
621-78-3 ▶ Tripentyloxyborane, B -00979
660-92-4 Trifluoroborane morpholine, B -00234
688-61-9 ▶ Tri-2-propenylborane, B -00599
688-71-1 ▶ Tripropoxyborane, B -00629
688-74-4 ▶ Tributoxyborane, B -00820
703-85-5 2,4,6-Tribromo-1,3,5-trimethylborazine, B -00185
703-86-6 2,4,6-Trichloro-1,3,5-trimethylborazine, B -00186
715-62-8 2,4,6-Triethyl-1,3,5-trimethylborazine, B -00636
823-96-1 Trimethylboroxin, B -00188
830-48-8 Dichloro(pentafluorophenyl)borane, B -00356
839-71-4 Hexaethylborazine, B -00839
850-07-7 ▶ Trifluoroborane triphenylphosphine, B -01057
850-13-5 Trifluoroborane triphenylphosphine oxide, B -01056
867-97-0 Tris(diethylamino)borane, B -00838
868-25-7 Chlorobis(diethylamino)borane, B -00577
868-29-1 Dibromo(diethylamino)borane, B -00236
868-30-4 Dichloro(diethylamino)borane, B -00240
868-81-5 Chlorodimethoxyborane, B -00097
873-51-8 Dichlorophenylborane, B -00361
877-07-6 Hexamethylborazine, B -00449
909-21-7 1,3,5-Trimethyl-2,4,6-triphenylborazine, B -01173
933-18-6 2,4,6-Trichloroborazine, B -00016
960-71-4 Triphenylborane, B -01051
971-66-4 Triphenylborane pyridine, B -01217
976-28-3 2,4,6-Triphenylborazine, B -01072
981-87-3 ▶ 2,4,6-Trichloro-1,3,5-triphenylborazine, B -01061
1001-49-6 Dibromobutylborane, B -00228
1004-35-9 1,3,5-Trimethylborazine, B -00209
1075-17-8 ▶ 1-Phenylborolane, B -00653
1088-01-3 Tricyclohexylborane, B -01091
1091-56-1 Diisopinocampheylborane, B -01151
1095-03-0 ▶ Triphenoxyborane, B -01060
1113-22-0 ▶ Ethyldimethylborane, B -00246
1113-30-0 (Dimethylamino)dimethylborane, B -00267
1113-42-4 Tri-*tert*-butylborane, B -00812
1113-78-6 Tris(1-methylpropyl)borane, B -00814
1115-07-7 ▶ Diethylmethylborane, B -00334
1116-39-8 Tris(2-methylpropyl)borane, B -00815
1116-61-6 ▶ Tripropylborane, B -00623
1125-73-1 Dichloro(methylphenylamino)borane, B -00465
1130-59-2 Perhydro-9b-boraphenylene; (3α,6α,9α)-*form*, *in* B -00783
1139-65-7 Dichloro(diphenylamino)borane, B -00760
1172-69-6 Tris(cyclohexyloxy)boroxin, B -01095
1188-50-7 Tris(2-methylpentyl)borane, B -01109
1188-92-7 Trihexylborane, B -01107
1188-96-1 Tris(decyl)borane, B -01329
1189-31-7 Dibutyl(hydroxy)borane, B -00571
1192-61-6 1-(Dimethylamino)borolane, B -00418
1194-24-7 *N,N*-Dimethylmethanamine phenylborane, *in* B -00378
1196-44-7 Chloro(dimethylamino)phenylborane, B -00525
1201-45-2 Bis(dimethylamino)phenylborane, B -00675
1425-58-7 10,9-Borazaronaphthalene, B -00518
1475-88-3 (3-Aminopropoxy)diphenylborane, B -00952
1516-54-7 Tribromoborane trimethylamine, B -00169
1516-55-8 Trichloroborane trimethylamine, B -00171
1536-90-9 Trifluoroborane 1-hexanol, B -00417
1568-65-6 Dicyclohexylborane, B -00791
1679-18-1 ▶ (4-Chlorophenyl)dihydroxyborane, B -00373
1692-31-5 Borolane, B -00227
1693-71-6 ▶ Tri(2-propenyloxy)borane, B -00602
1694-84-4 Tribenzylborane, B -01163
1704-27-4 Trimethylborane trimethylamine, B -00444
1722-26-5 Borane triethylamine, B -00443
1722-33-4 Borane methylamine, B -00071
1730-69-4 ▶ Dibutylchloroborane, B -00562
1739-52-2 ▶ Dichloropropylborane, B -00162
1739-53-3 ▶ Dichloroethylborane, B -00086
1767-37-9 Aminodibutylborane, B -00578
1769-74-0 Borane *N,N*-dimethylaniline, B -00541
1776-66-5 Triisopropylborane, B -00622
1803-36-7 ▶ Chlorodimethylborane, B -00096
1830-95-1 Trimethylborane ammonia, B -00204
1838-13-7 (Dimethylamino)borane, B -00129
1870-68-4 Bis(ethylthio)phenylborane, B -00666
1870-69-5 Triphenylborthiin, B -01064
1883-34-7 Tris(1-ethylbutyl)borane, B -01108
1883-38-1 Tripentylborane, B -00976
1898-77-7 Borane trimethylphosphine, B -00208
1978-51-4 Trifluoroborane 4-methylaniline, B -00467
2049-55-0 Borane triphenylphosphine, B -01071
2102-03-6 Trichloroborane diethyl ether, B -00241
2117-94-4 Butyldimethoxyborane, B -00426
2117-96-6 (Hexyloxy)dipropylborane, B -00819
2156-04-9 (4-Ethenylphenyl)dihydroxyborane, B -00523
2169-38-2 ▶ Tetramethylborate(1-); Li salt, *in* B -00259
2237-45-8 Dimethylaminodiphenylborane, B -00891
2344-21-0 Dibutylmethoxyborane, B -00624
2344-23-2 Hexyldimethoxyborane, B -00574
2386-98-3 ▶ Bis(dimethylamine)borane, B -00280
2467-12-1 ▶ Trioctyloxyborane, B -01259
2467-13-2 ▶ Tris(2-ethylhexyloxy)borane, B -01260
2467-14-3 Trinonyloxyborane, B -01294
2467-15-4 ▶ Tridodecyloxyborane, B -01359
2467-16-5 Tricyclohexyloxyborane, B -01093

- 2467-18-7 ▶ Tribenzoyloxyborane, B -01165
 2608-99-3 2,4,6-Trichloro-1,3,5-triethylborazine, B -00431
 2622-89-1 Hydroxydiphenylborane, B -00761
 2670-68-0 Borane diethylamine, B -00283
 2723-57-1 1,3,5-Triethyl-2,4,6-tris(pentafluorophenyl)borazine, B -01162
 2797-28-6 Tetrakis(pentafluorophenyl)borate(1-); Li salt, *in* B -01226
 2890-88-2 Trichloroborane triethylamine, B -00422
 2903-67-5 Trichloroborane pyridine, B -00308
 2903-69-7 Tribromoborane triethylamine, B -00421
 2938-25-2 Diphenoxyphenylborane, B -01059
 2938-53-6 Perhydro-9*b*-boraphenylene; (3*αα*,6*αα*,9*αβ*)-*form*, *in* B -00783
 2938-87-6 Dimethoxypropylborane, B -00338
 2938-89-8 Methoxydipropylborane, B -00505
 2938-91-2 (Butylthio)dipropylborane, B -00716
 2938-93-4 Dibutyl(butylthio)borane, B -00824
 3022-54-6 Tribromoborane pyridine, B -00307
 3027-53-0 Oxybis[dibutylborane], B -01025
 3027-55-2 Butoxydipentylborane, B -00935
 3027-57-4 Dibutoxyphenylborane, B -00877
 3027-60-9 Dibutoxyethylborane, B -00714
 3043-60-5 Triethylboroxin, B -00432
 3053-69-8 Triiodoborane triphenylphosphine, B -01058
 3087-82-9 Cesium tetraphenylborate(1-), B -01232
 3089-96-1 Dibutoxyhexylborane, B -00937
 3230-03-3 Trichloroborane triphenylphosphine, B -01055
 3244-41-5 Potassium tetraphenylborate(1-), B -01233
 3248-78-0 Trioctylborane, B -01258
 3262-89-3 Triphenylboroxin, B -01062
 3426-98-0 Tribromoborane triphenylphosphine, B -01053
 3578-40-3 Butoxydipropylborane, B -00711
 3677-81-4 Chlorodiphenylborane, B -00759
 3688-24-2 (1,1,2-Trimethylpropyl)borane, B -00420
 3765-14-8 Dipropyl(methylthio)borane, B -00507
 3982-02-3 1,3,5-Tributyl-2,4,6-trichloroborazine, B -00825
 3999-39-1 Borane 4-methylpyridine, B -00388
 3999-42-6 Borane 2,6-dimethylpyridine, B -00484
 4002-27-1 Trinonylborane, B -01293
 4011-26-1 Dimethyl(phenylamino)borane, B -00536
 4023-39-6 Diethylaminodimethylborane, B -00579
 4023-40-9 Dimethyl(methylamino)borane, B -00195
 4151-77-3 Dibromophenylborane, B -00360
 4250-45-7 Dichloro(4-methylphenyl)borane, B -00463
 4268-15-9 Dibutyl(diethylamino)borane, B -00833
 4268-35-3 Borane dimethylphosphine, B -00139
 4363-34-2 Dihydroxyvinylborane, B -00090
 4363-35-3 Dihydroxy(2-phenylethenyl)borane, B -00520
 4375-83-1 Tris(dimethylamino)borane, B -00447
 4426-21-5 Oxybis[diphenylborane], B -01241
 4426-31-7 Diethylhydroxyborane, B -00253
 4426-47-5 Butyldihydroxyborane, B -00255
 4433-63-0 Ethyldihydroxyborane, B -00120
 4443-43-0 ▶ Methoxydimethylborane, B -00177
 4480-56-2 Borepane, B -00400
 4542-61-4 Dimethoxyborane, B -00119
 4632-82-0 3-Borabicyclo[3.3.1]nonane, B -00544
 4737-50-2 Pentyldihydroxyborane, B -00339
 4856-95-5 ▶ Borane morpholine, B -00268
 5123-17-1 Bromodiphenylborane, B -00758
 5158-50-9 Bromodimethylborane, B -00093
 5271-93-2 (Diethylamino)di-1-propynylborane, B -00671
 5314-83-0 Chlorodiethylborane, B -00237
 5314-85-2 2,4,6-Trimethylborazine, B -00210
 5337-36-0 ▶ Trihexyloxyborane, B -01110
 5337-41-7 ▶ Trioctadecyloxyborane, B -01397
 5419-55-6 ▶ Triisopropoxyborane, B -00628
 5467-74-3 ▶ (4-Bromophenyl)dihydroxyborane, B -00371
 5518-25-2 ▶ Diethylborane, B -00245
 5523-19-3 Trichloroborane dimethyl sulfide, B -00098
 5570-19-4 Dihydroxy(2-nitrophenyl)borane, B -00376
 5606-04-2 Triphenylborane triethylamine, B -01250
 5674-70-4 Bromodibutylborane, B -00558
 5720-05-8 ▶ Dihydroxy(4-methylphenyl)borane, B -00474
 5720-06-9 ▶ Dihydroxy(2-methoxyphenyl)borane, B -00476
 5720-07-0 ▶ Dihydroxy(4-methoxyphenyl)borane, B -00478
 5743-34-0 Borogluconic acid; Ca salt, *in* B -00395
 5747-29-5 1-Methoxyborepane, *in* B -00400
 5843-32-3 Borane tetramethylethylenediamine, B -00454
 5843-33-4 Tetramethylethylenediamine bis(borane), B -00460
 5856-68-8 ▶ Methyldivinylborane, B -00324
 5856-70-2 Vinylborane, B -00084
 5971-93-7 Rubidium tetraphenylborate(1-), B -01239
 6166-10-5 ▶ 1-Methoxyborolane, B -00331
 6562-41-0 Chlorobis(dimethylamino)borane, B -00264
 6569-51-3 Borazine, B -00020
 6783-05-7 Dihydroxy(2-phenylethenyl)borane; (*E*)-*form*, *in* B -00520
 6838-83-1 Bis(3-methyl-2-butyl)borane, B -00709
 6867-35-2 Tetramethoxyborate(1-); Li salt, *in* B -00273
 6867-39-6 Borane trimethyl phosphite, B -00207
 6914-63-2 Bis(dimethylamino)methylborane, B -00345
 6962-78-3 Tri-1-naphthylborane, B -01318
 6990-27-8 Bromobis(dimethylamino)borane, B -00260
 7187-84-0 Triphenoxyboroxin, B -01063
 7216-97-9 Dimethylborane, B -00111
 7217-01-8 Trivinylborane, B -00387
 7289-86-3 Dibutyl(dimethylamino)borane, B -00719
 7297-94-1 Tris(4-methylphenyl)borane, B -01164
 7297-95-2 Tris(2,4,6-trimethylphenyl)borane, B -01291
 7318-73-2 Bis(dimethylamino)methoxyborane, B -00346
 7318-74-3 (Dimethylamino)dimethoxyborane, B -00270
 7318-78-7 Dichloromethylborane, B -00053
 7318-81-2 Methyltrimethoxyborane, B -00179
 7318-82-3 Ethyldimethoxyborane, B -00256
 7318-83-4 Di-*tert*-butoxyethylborane, B -00715
 7318-84-5 Oxybis[diethylborane], B -00582
 7318-87-8 (Diethylamino)dimethylborane, B -00436
 7318-91-4 Dimethylaminomethoxymethylborane, B -00269
 7319-05-3 Borane tris(dimethylamino)phosphine, B -00458
 7337-45-3 ▶ Borane *tert*-butylamine, B -00282
 7359-98-0 Tributylboroxin, B -00826
 7360-03-4 1,3,5-Triethylborazine, B -00450
 7360-64-7 Dibromo(dimethylamino)borane, B -00094
 7387-21-5 2,4-Dichloro-1,3,5,6-tetramethylborazine, B -00275
 7392-26-9 Dibromo(dimethylamino)borane; Dimer, *in* B -00094
 7397-43-5 Tri-*tert*-butoxyborane, B -00821
 7397-44-6 Tris(methylamino)borane, B -00206
 7397-46-8 ▶ Diethylmethoxyborane, B -00337
 7397-47-9 (Dimethylamino)diethylborane, B -00437
 7416-85-5 (Diethylamino)difluoroborane; Dimer, *in* B -00242
 7443-22-3 2,4,6-Triethylborazine, B -00451
 7560-51-2 Bis(trimethylsilyloxy)phenylborane, B -00795
 7680-99-1 ▶ Dichloroisopropylborane, B -00161
 10049-36-2 Trihydroxyborane tris(2-hydroxyethyl)amine, B -00446
 10147-89-4 Chlorodivinylborane, B -00220
 10365-98-7 Dihydroxy(3-methoxyphenyl)borane, B -00477
 11064-94-1 (1,2-Dicarbadodecaboran(12)-1-yl)ferrocene, B -00780
 11070-28-3 Bis[(7,8,9,10,11- η)-1,2,3,4,5,6,9,10,11-nonahydro-7,8-dimethyl-7,8-dicarbaundecaborato(2-)]ferrate(1-), B -00586
 11098-56-9 ▶ Dodecahydro-7,8-dicarbaundecaborato(1-)-*H*⁹,*H*¹⁰ dimethylaluminum, B -00291
 11098-58-1 ▶ Dodecahydro-7,8-dicarbaundecaborato(1-)-*H*⁹,*H*¹⁰-diethylaluminum, B -00459
 11136-43-9 2,4,6-Triferrocenylborazine, B -01321
 12008-19-4 Hexaborane(12), B -00032
 12083-77-1 Bis(η^5 -2,4-cyclopentadien-1-yl)-bis[tetrahydroborato(1-)-*H*,*H'*]zirconium, B -00686
 12110-62-2 2-[(Dimethylamino)methyl]ferroceneboronic acid, B -00849
 12116-93-7 Bis(η^5 -2,4-cyclopentadien-1-yl)-hydro[tetrahydroborato(1-)-*H*,*H'*]zirconium, B -00667
 12118-93-3 (1,2,3,4-Tetraphenyl-1,3-cyclobutadiene)-[nonahydro-1,2-dimethyl-1,2-dicarbaundecaborato(2-)]palladium, B -01339
 12152-94-2 Ferroceneboronic acid, B -00649
 12242-63-6 Dicarboxyl[hydrotris(pyrazolato)borato(1-)](η^3 -2-methylpropenyl)tungsten, B -00951

- 12277-78-0 Dicarbonyl(η^5 -2,4-cyclopentadien-1-yl)diphenylboraneiron, B -01114
- 12300-49-1 (η^5 -2,4-Cyclopentadien-1-yl)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]-iron, B -00495
- 12302-58-8 Bis[(7,8,9,10,11- η)-1,2,3,4,5,6,8,9,10,11-decahydro-7-phenyl-7,8-dicarbaundecaborato(2-)]ferrate(1-); Tetramethylammonium salt, *in* B -01011
- 12304-95-9 Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-); Tetramethylammonium salt, *in* B -00297
- 12304-97-1 Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-); Cs salt, *in* B -00297
- 12306-68-2 Dicarbonyl(η^5 -2,4-cyclopentadien-1-yl)dichloroboraneiron, B -00462
- 12375-22-3 [(5,6,7,8,9,10- η)-Dodecahydrodecaborato(2-)]-bis(triethylphosphine)platinum, B -00842
- 12385-35-2 2-Carbahexaborane(9), B -00073
- 12421-66-8 Octaborane(18), B -00037
- 12429-85-5 Nonahydrotetraborate(1-), B -00022
- 12447-77-7 6-Thiadecaborane(11), B -00039
- 12538-96-4 Methylborane, B -00064
- 12556-51-3 Bis[(7,8,9,10,11- η)-1,2,3,4,5,6,9,10,11-nonahydro-7,8-dimethyl-7,8-dicarbaundecaborato(2-)]ferrate(1-); Tetramethylammonium salt, *in* B -00586
- 12563-57-4 [η^3 -Dodecahydrooctaborato(2-)]-bis(triethylphosphine)platinum, B -00841
- 12637-02-4 Triferrocenylboron, B -01319
- 12654-95-4 Dimethyl[octahydrotriborato(1-)]aluminum, B -00154
- 12772-20-2 Bis(η^5 -2,4-cyclopentadien-1-yl)-[tetrahydroborato(1-)]*H*,*H'*]titanium, B -00657
- 13058-05-4 2-Chloro-1,3,4,5,6-pentamethylborazine, B -00348
- 13061-96-6 Dihydroxy(methyl)borane, B -00066
- 13061-97-7 Hydroxydimethylborane, B -00118
- 13072-44-1 Trichloroborane dimethylamine, B -00115
- 13113-78-5 Dimethylaminodipropylborane, B -00580
- 13195-76-1 $\triangleright$ Tris(2-methylpropoxy)borane, B -00823
- 13205-44-2 Borane carbonyl, B -00061
- 13240-39-6 Chloroborane triethylamine, B -00440
- 13251-29-1 Dibutoxy(iodomethyl)borane, B -00621
- 13283-31-3 Borane, B -00006
- 13291-21-9 1,3,2-Dithiaborolane trimethylamine, B -00343
- 13292-83-6 Trichloroborane trimethylphosphine, B -00172
- 13292-85-8 Tribromoborane trimethylphosphine, B -00170
- 13292-87-0 $\triangleright$ Borane dimethyl sulfide, B -00135
- 13317-62-9 Bromodipentylborane, B -00706
- 13317-63-0 Bromobis(1-methylpropyl)borane, B -00557
- 13317-64-1 Chlorobis(2-methylpropyl)borane, B -00561
- 13331-23-2 2-Furanyldihydroxyborane, B -00218
- 13331-27-6 $\triangleright$ Dihydroxy(3-nitrophenyl)borane, B -00377
- 13471-35-7 Dimethoxyphenylborane, B -00530
- 13471-36-8 Methoxydiphenylborane, B -00847
- 13586-42-0 Tris(4-methylphenyl)borane ammonia, B -01172
- 13703-88-3 2,4,6-Tribromoborazine, B -00015
- 13703-95-2 Trifluoroboroxin, B -00018
- 13709-83-6 Difluoroborane, B -00003
- 13722-15-1 2,4,6-Trifluoro-1,3,5-trimethylborazine, B -00187
- 13722-62-8 Ethynyldimethoxyborane, B -00225
- 13730-91-1 $\triangleright$ Hydrazine bis(borane), B -00014
- 13779-24-3 2,4,6-Trifluoroborazine, B -00017
- 13922-41-3 Dihydroxy(1-naphthalenyl)borane, B -00643
- 14044-65-6 $\triangleright$ Borane tetrahydrofuran, B -00252
- 14090-22-3 $\triangleright$ Butyldichloroborane, B -00230
- 14117-84-1 Difluorophenoxyborane, B -00368
- 14175-47-4 (Dimethylaminomethyl)borane trimethylamine, B -00455
- 14289-75-9 Tris(bicyclo[2.2.1]hept-2-yl)borane, B -01180
- 14480-40-1 Triphenylborane trimethylamine, B -01171
- 14485-20-2 Lithium tetraphenylborate(1-), B -01234
- 14535-62-7 Pyridine triallylborane, *in* B -00599
- 14568-16-2 Cesignost, *in* B -01115
- 14637-31-1 Thallium(1+) tetraphenylborate(1-), B -01240
- 14637-34-4 Ammonium tetraphenylborate(1-), B -01244
- 14637-35-5 Silver(1+) tetraphenylborate(1-), B -01231
- 14680-77-4 Tetrakis(4-chlorophenyl)borate(1-); K salt, *in* B -01228
- 14695-71-7 Bis[(4-bromo-1-pyrazolyl)diethylborane], B -00912
- 14695-83-1 Tetrakis(1*H*-pyrazolato-*N*²)borate(1-); Na salt, *in* B -00763
- 14720-35-5 Aminoborane, B -00009
- 14728-62-2 Tetrakis(1*H*-pyrazolato-*N*²)borate(1-); Li salt, *in* B -00763
- 14750-98-2 Tris(3-methylphenoxy)borane, B -01166
- 14782-58-2 Tetrakis(1*H*-pyrazolato-*N*²)borate(1-); K salt, *in* B -00763
- 14871-98-8 $\triangleright$ Difluoro(1-phenyl-1,3-butanedionato-*O*,*O'*)boron, B -00641
- 14931-40-9 $\triangleright$ Borane hydrazine, B -00013
- 14947-61-6 $\triangleright$ (1,3-Diphenyl-1,3-propanedionato-*O*,*O'*)difluoroboron, B -00943
- 14974-24-4 Difluoro(2-acetylphenoxy)borane, B -00514
- 15003-13-1 Tetraethylborate(1-); Li salt, *in* B -00575
- 15016-42-9 (2-Ethenylphenyl)dihydroxyborane, B -00521
- 15016-43-0 (3-Ethenylphenyl)dihydroxyborane, B -00522
- 15068-65-2 *N,N*-Diethylethanamine phenylborane, *in* B -00378
- 15185-53-2 2,4,6-Trimethoxyborazine, B -00211
- 15243-31-9 Tetraethylborate(1-); Li salt, *in* B -01023
- 15277-97-1 [[2,2'-Nitrilotris[ethanolato]](3-)-*N,O,O',O''*]boron, B -00397
- 15318-09-9 Methyltriphenylphosphonium tetraphenylborate(1-), B -01387
- 15323-04-3 Butoxydiphenylborane, B -00991
- 15390-25-7 $\triangleright$ Difluoro(2,4-pentanedionato-*O,O'*)boron, B -00320
- 15522-59-5 Tetraethylammonium tetraphenylborate, B -01381
- 15523-24-7 Tetraethylborate(1-); Na salt, *in* B -00575
- 15525-13-0 Tetramethylammonium tetraphenylborate, B -01304
- 15525-15-2 Tetraphenylphosphonium tetraphenylborate(1-), B -01394
- 15556-39-5 Tetrapropylammonium tetraphenylborate, B -01355
- 15590-32-6 Dichloro(diethylamino)borane; Py complex (1:3), *in* B -00240
- 15590-33-7 Dichloro(diisopropylamino)borane; Py complex, *in* B -00416
- 15590-35-9 Dichloro(diisopropylamino)borane; 4-Methylpyridine complex, *in* B -00416
- 15614-89-8 (2-Aminoethoxy)diphenylborane, B -00892
- 15627-12-0 Tetraphenylarsonium(1+) tetraphenylborate(1-), B -01393
- 15696-17-0 Trifluoromethoxyborate(1-); K salt, *in* B -00058
- 15706-69-1 Ethoxydiethylborane, B -00425
- 15813-13-5 10-Methyl-10,9-borazarophenanthrene, B -00845
- 15909-61-2 $\triangleright$ 1,1'-(1,4-Butanediy)bis[borolane], B -00801
- 15973-91-8 Aminodimethylborane, B -00128
- 16339-28-9 Dichloroethoxyborane, B -00087
- 16343-08-1 Hexyldihydroxyborane, B -00428
- 16396-62-6 Tris(4-ethenylphenyl)boroxin, B -01242
- 16419-60-6 Dihydroxy(2-methylphenyl)borane, B -00472
- 16548-71-3 Bromo(dimethylamino)phenylborane, B -00524
- 16664-33-8 Perhydro-9*b*-boraphenylene, B -00783
- 16703-13-2 3-Phenyl-3*H*-benzoborepin, B -00984
- 16742-92-0 Butyltris(3-methylbutyl)ammonium tetraphenylborate, B -01388
- 16872-09-6 1,2-Dicarbododecaborane(12), B -00151
- 16903-32-5 Trihydrohydroxyborate(1-); Na salt, *in* B -00010
- 16903-61-0 [Tetrahydroborato(1-)-*H,H'*]-bis(triphenylphosphine)copper, B -01353
- 16912-59-7 2,4,6-Tris(dimethylamino)-1,3,5-trimethylborazine, B -00639
- 16940-17-3 Hydrotrimethoxyborate(1-); Na salt, *in* B -00196
- 16940-66-2 $\triangleright$ Sodium borohydride, *in* B -00008
- 16949-15-8 $\triangleright$ Lithium borohydride, *in* B -00008
- 16971-82-7 Hydrogenbis[1,2-benzenediolato(2-)-*O,O'*]-borate(1-) compd. with *N,N'*-bis(2-methylphenyl)guanidine(1:1), *in* B -00757
- 16986-24-6 $\triangleright$ 1,7-Dicarbododecaborane(12), B -00152
- 16998-92-8 Bis[(3,5-dimethyl-1-pyrazolyl)borane], B -00684
- 17141-43-4 (3-Dimethylaminopropyl)borane, B -00342
- 17197-55-6 Tris(dimethylamino)boroxin, B -00452
- 17217-89-9 μ -1,7-Dicarbododecaborane(12)-1,7-diyldilithium, B -00145
- 17304-01-7 Tri-2-butenylborane, B -00784
- 17304-18-6 *B*-Thexyl-9-borabicyclo[3.3.1]nonane, B -00923

- 17381-60-1 Diiodophenylborane, B -00369
 17381-61-2 Bis(methylthio)phenylborane, B -00532
 17428-04-5 3-Methoxy-3-borabicyclo[3.3.1]nonane, B -00607
 17428-08-9 3-Methoxy-7-methyl-3-borabicyclo[3.3.1]nonane, B -00693
 17520-38-6 Triphenylborane 2-methylpropylamine, B -01198
 17520-47-7 Phenylidichloroborane triethylamine, B -00775
 17567-17-8 Tris(3,5-dimethyl-1*H*-pyrazolato-*N'*)hydroborate(1-); K salt, *in* B -00955
 17702-41-9 ▶Decaborane(14), B -00043
 17713-04-1 Dimethyl[tetrahydroborato(1-)*H,H'*]aluminum, B -00136
 17745-45-8 Dihydroxypropylborane, B -00178
 17814-54-9 Dibutyl(1-cyclohexenyloxy)borane, B -00926
 17832-17-6 Methoxybis(2-methylpropyl)borane, B -00626
 17857-04-4 Tris(3,5-dimethyl-1*H*-pyrazolato-*N'*)hydroborate(1-); Li salt, *in* B -00955
 17933-03-8 ▶Dihydroxy(3-methylphenyl)borane, B -00473
 17933-07-2 Ethyldiiodoborane, B -00089
 17933-08-3 Diiodomethylborane, B -00059
 17933-09-4 Iododimethylborane, B -00104
 17933-10-7 Dibromoethylborane, B -00085
 17933-16-3 Dibromomethylborane, B -00052
 17967-50-9 Tetrakis(1*H*-pyrazolato-*N'*)borate(1-); Free acid, *in* B -00763
 17979-81-6 Sodium triethylhydroborate, *in* B -00434
 18029-12-4 Methylbis(methylamino)borane, B -00202
 18283-93-7 Tetraborane(10), B -00023
 18379-69-6 Chlorobis(dibutylamino)borane, B -01024
 18379-71-0 Dichloro(dibutylamino)borane, B -00563
 18433-84-6 Pentaborane(11), B -00029
 18447-53-5 Diaminoborane, B -00011
 18494-96-7 Bromo(dimethylamino)methylborane, B -00168
 18517-67-4 Dihydrobis(trimethylamine)boron(1+); Chloride, *in* B -00456
 18583-59-0 Dihydrobis(1*H*-pyrazolato-*N'*)borate(1-); K salt, *in* B -00385
 18583-60-3 Hydrotris(1*H*-pyrazolato-*N'*)borate(1-); K salt, *in* B -00589
 18583-61-4 Hydrotris(1*H*-pyrazolato-*N'*)borate(1-); Li salt, *in* B -00589
 18583-62-5 Hydrotris(1*H*-pyrazolato-*N'*)borate(1-); Na salt, *in* B -00589
 18583-65-8 Dihydrobis(1*H*-pyrazolato-*N'*)borate(1-); Free acid, *in* B -00385
 18601-55-3 Bis(4-chloro-1-pyrazolyl)borane, B -00386
 18759-99-4 ▶Diethyl-2-propenylborane, B -00496
 18903-54-3 1-Aza-6-borabicyclo[4.4.0]decane, B -00547
 18972-20-8 2,3-Dicarbahexaborane(8), B -00131
 19121-56-3 Borane phosphine, B -00012
 19125-66-7 Bis(methylamino)phenylborane, B -00538
 19162-10-8 Bromodiethylborane, B -00235
 19163-04-3 ▶Oxybis(dimethylborane), B -00274
 19163-05-4 Dimethyl(methylthio)borane, B -00182
 19163-08-7 Methylbis(methylthio)borane, B -00183
 19163-14-5 Bis(dimethylboryl)amine, B -00281
 19163-15-6 *N,N*-Bis(dimethylboryl)methylamine, B -00347
 19163-16-7 Tris(dimethylboryl)amine, B -00448
 19287-45-7 ▶Diborane(6), *in* B -00006
 19426-80-3 (2,4-Pentanedionato-*O,O'*)diphenylboron, B -01030
 19426-81-4 Diphenylboryl 1-phenyl-1,3-butanedionate, B -01188
 19426-82-5 (1,3-Diphenyl-1,3-propanedionato-*O,O'*)diphenylboron, B -01289
 19443-40-4 Bis[2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); NH₄ salt, *in* B -00883
 19465-30-6 Isononaborane(15), B -00040
 19465-30-6 Nonaborane(15), B -00041
 19469-13-7 1-Chloropentaborane(9), B -00025
 19469-14-8 2-Chloropentaborane(9), B -00026
 19499-16-0 Octaborane(12), B -00035
 19610-37-8 1,2-Dicarbadodecaborane(12)-1,2-dimethanol, B -00289
 19624-22-7 ▶Pentaborane(9), B -00028
 20195-59-9 Pentaphenylborole, B -01343
 20236-81-1 Tri(decyloxy)borane, B -01330
 20524-64-5 Dibutyl(methylthio)borane, B -00630
 20596-52-5 Dimethylaminotrihydroborate(1-); Na salt, *in* B -00134
 20622-63-3 Bis(1,1,2-trimethylpropyl)borane, B -00811
 20631-84-9 Hydroxybis(2,4,6-trimethylphenyl)borane, B -01075
 20644-12-6 1,12-Dicarbadodecaborane(12), B -00153
 20693-66-7 1,5-Dicarbapentaborane(5), B -00091
 20693-67-8 1,6-Dicarbahexaborane(6), B -00108
 20693-68-9 1,2-Dicarbahexaborane(6), B -00107
 20693-69-0 2,4-Dicarbaheptaborane(7), B -00123
 20740-05-0 ▶1-Hexyl-1,2-dicarbadodecaborane(12), B -00585
 20741-68-8 2,3-Dimethyl-2,3-dicarbahexaborane(8), B -00276
 20816-71-1 1,2-Bis(dichloroboryl)ethane, B -00083
 20905-32-2 Chlorodiethoxyborane, B -00239
 20905-35-5 Trimethylene borate, B -00614
 20957-79-3 Difluoropropoxyborane, B -00163
 21127-94-6 1-Methylborazine, B -00072
 21655-10-7 Trifluoromethoxyborate(1-); Na salt, *in* B -00058
 21932-54-7 Diisopinocampheylborane; (-)-*form*, *in* B -01151
 21947-87-5 Diisopinocampheylborane; (+)-*form*, *in* B -01151
 22086-34-6 9-Chloro-9-borabicyclo[3.3.1]nonane, B -00540
 22086-36-8 9-Chloro-9-borabicyclo[3.3.1]nonane pyridine, B -00851
 22086-45-9 9-Bromo-9-borabicyclo[3.3.1]nonane, B -00539
 22086-53-9 ▶Chlorodipropylborane, B -00414
 22142-47-8 2,3-μ-(Trimethylplumbyl)pentaborane(9), B -00214
 22220-85-5 μ-1,2-Dicarbadodecaborane(12)-1,2-diylidilithium, B -00144
 22238-17-1 ▶Tris(2-butoxy)borane, B -00822
 22364-90-5 Bis[2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); Na salt, *in* B -00883
 22405-14-7 Difluoroethylborane pyridine, *in* B -00088
 22560-16-3 ▶Lithium triethylhydroborate, *in* B -00434
 22560-21-0 Potassium triethylhydroborate, *in* B -00434
 22801-27-0 Tris(bicyclo[2.2.1]hept-2-yl)borane; *exo,exo,exo-form*, *in* B -01180
 22864-44-4 Diethylphosphine ethylborane, *in* B -00112
 22864-45-5 Ethylborane dipropylphosphine, *in* B -00112
 23087-97-0 μ-1,12-Dicarbadodecaborane(12)-1,12-diylidilithium, B -00146
 23147-97-9 (2-Methylpropoxy)diphenylborane, B -00992
 23151-46-4 1,2-Dicarba-3-stannadodecaborane, B -00150
 23231-91-6 Tetrabutylborate(1-); Tetrabutylammonium salt, *in* B -01023
 23273-29-2 *N,N,N*-Triethylethanaminium trichlorophenylborate(1-), *in* B -00366
 23418-81-7 9-Methyl-9-borabicyclo[3.3.1]nonane, B -00605
 23418-90-8 9-(4-Methylphenyl)-9-borabicyclo[3.3.1]nonane, B -00953
 23418-91-9 9-Phenyl-9-borabicyclo[3.3.1]nonane, B -00896
 23532-74-3 9-Butyl-9-borabicyclo[3.3.1]nonane, B -00789
 23653-23-8 1,10-Dicarbadecaborane(10), B -00143
 23704-81-6 1,6-Dicarbadecaborane(10), B -00142
 23728-64-5 Ethynyldifluoroborane, B -00079
 23732-90-3 1,7-Dicarbaoctaborane(8), B -00132
 23753-67-5 ▶1-Bromopentaborane(9), B -00024
 23777-80-2 Hexaborane(10), B -00031
 23924-78-9 1,7-Dicarbadodecaborane(12)-1,7-dimethanol, B -00290
 23985-40-2 Tricyclopentylborane, B -00966
 24172-91-6 Dibutyl[N-[2-(1-iminoethyl)cyclohexylidene]benzenamino-*N,N'*]boron, B -01206
 24492-48-6 Trihydrohydroxyborate(1-), B -00010
 24651-47-6 Tetrabutylborate(1-), B -01023
 24899-12-5 Hydro[tetrahydroborato(1-)-*H,H'*]-bis(tricyclohexylphosphine)nickel; *trans-form*, *in* B -01356
 25070-50-2 Ethylborane, B -00112
 25301-61-5 9-Boratabicyclo[3.3.1]nonane, B -00546
 25397-16-4 Tetrakis(3-methylbutyl)ammonium tetraphenylborate, B -01389
 25397-17-5 Tetraisopentylammonium tetraisopentylborate, *in* B -01160
 25513-17-1 Dibutyl[N-(2-iminophenylmethyl)cyclohexylidene]benzenamino-*N,N'*]boron, B -01292
 25741-81-5 ▶Iodoborane trimethylamine, B -00200
 25741-84-8 Diiodoborane trimethylamine, *in* B -00004

- 25895-60-7 ▶ Sodium cyanoborohydride, *in* B -00060
 26085-03-0 (Dimethylamino)borane; Dimer, *in* B -00129
 26249-71-8 1,2-Dicarbapentaborane(7), B -00121
 26282-82-6 Triethylmethylborate(1-); Li salt, *in* B -00510
 27071-51-8 1,2-Dicarba-3-plumbadodecacarborane(11), B -00149
 27071-52-9 1,2-Dicarba-3-germadodecacarborane, B -00148
 27329-70-0 (5-Formyl-2-furanyl)dihydroxyborane, B -00314
 27339-36-2 (4-Formyl-3-furanyl)dihydroxyborane, B -00313
 27339-37-3 (2-Formyl-3-furanyl)dihydroxyborane, B -00310
 27339-38-4 (3-Formyl-2-furanyl)dihydroxyborane, B -00311
 27664-53-5 [1,1',1''-Nitrilotris[2-propanolato](3-)-*N,O,O',O''*]boron, B -00611
 27664-60-4 [3,3',3''-Nitrilotris[1-propanolato](3-)-*N,O,O',O''*]boron, B -00612
 27944-03-2 Fluoroborane, B -00002
 27952-41-6 [3-[Bis(2-hydroxyethyl)amino]-1-propanolato(3-)-*N,O,O',O''*]boron, B -00493
 28323-17-3 2,3,4,5-Tetracarbaheptaborane(6), B -00223
 28627-87-4 ▶ [Bis[μ-(2,3-butanedione dioximato)(2-)-*O,O'*]-tetrafluorodiborato(2-)-*N,N',N'',N'''*]-methyl(pyridine)cobalt, B -00900
 28699-83-4 2,4-Bis(chlorodimethylsilyl)-2,4-dicarbaheptaborane(7), B -00442
 28741-07-3 Heptyldihydroxyborane, B -00506
 28741-08-4 Dihydroxyoctylborane, B -00573
 28775-81-7 2,2'-Bipentaborane(9), B -00046
 28872-72-2 Aminodipropylborane, B -00435
 28875-08-3 Monoisopinocampheylborane, B -00690
 28920-40-3 Hydrodiiodo[thiobis[methane]]boron, *in* B -00004
 29215-41-6 1,1-Diphenyl-*N*-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]boranamine, B -00942
 29957-59-3 Tribromoborane dimethyl sulfide, B -00095
 30038-49-4 Dihexyl(1,1,2-trimethylpropyl)borane, B -01106
 30089-00-0 9-Octyl-9-borabicyclo[3.3.1]nonane, B -01014
 30353-61-8 ▶ Cyanoborane trimethylamine, B -00251
 30353-62-9 Cyanoborane 4-methylpyridine, B -00471
 30353-64-1 ▶ Tetramethylethylenediamine bis(cyanoborane), B -00581
 30442-90-1 Aminodimethylborane; Dimer, *in* B -00128
 30844-81-6 Trifluoroborane phenyl acetate, B -00517
 30916-06-4 Hydro[tetrahydroborato(1-)-*H,H'*]-bis(tricyclohexylphosphine)palladium, B -01357
 30946-46-4 2,4-Dichloro-1,3,5,6-tetramethylborazine; Homopolymer, *in* B -00275
 31029-61-5 Borabenzene, B -00306
 31388-53-1 Tetracarbonyl[*N,N*-dimethylboranaminato(2-)-*B*]-iron, B -00375
 31426-85-4 Nonahydrohexaborate(1-), B -00030
 31569-53-6 Dicyclohexyl(3-methyl-1,3-butadienyl)borane, B -01040
 31569-68-3 3-Hydroxy-3*H*-3-benzoborepin, B -00642
 31753-03-4 4,8-Dimethyl-2-(1,1,2-trimethylpropyl)-2-borabicyclo[3.3.1]nonane, B -01013
 31811-20-8 Dichloroferrocenyl(pyridine)boron, *in* B -00640
 31831-99-9 1,2'-Bipentaborane(9), B -00045
 31884-67-0 [(2,3,5,6-η)-Bicyclo[2.2.1]hepta-2,5-diene]-[(η⁶-phenyl)triphenylborato(1-)]rhodium, B -01332
 31974-01-3 [(1,2,5,6-η)-1,5-Cyclooctadiene][(η⁶-phenyl)triphenylborato(1-)]rhodium, B -01338
 32007-87-7 Dichloroborylferrocene, B -00640
 32124-79-1 Decaborane(12), B -00042
 32174-79-1 Decaborane(12) compd. with 1,1'-thiobis[ethane](1:2), *in* B -00042
 32327-50-7 Bis(1,2-dimethylpropyl)octylborane, B -01105
 32327-52-9 Tris(1,2-dimethylpropyl)borane, B -00977
 32327-53-0 Dioctyl(1,1,2-trimethylpropyl)borane, B -01214
 32429-86-0 Dibutylethoxyborane, B -00712
 32503-13-2 2-[(3,6-Dimethyl-1-borepanyloxy]-*N,N*-dimethylethanamine, *in* B -00551
 32503-24-5 1-Methoxy-3,6-dimethylborepane, *in* B -00551
 32705-45-6 Methoxybis(1-methylpropyl)borane, B -00625
 32705-46-7 Dicyclohexyl(methoxy)borane, B -00870
 32784-73-9 Tris(2-methyl-2-propenyl)borane, B -00785
 33058-09-2 Dicarbonyl[dihydrobis(1*H*-pyrazolato-*N'*)-borato(1-)-*N³,N^{3'}*]rhodium, B -00519
 33195-00-5 (Cyano-*C*)trihydroborate(1-), B -00060
 33340-89-5 Ferroceniumyltriphenylborate(1-), B -01299
 33362-35-5 [(η⁶-Phenyl)triphenylborato(1-)]bis(trimethylphosphite-*P*)rhodium, B -01326
 33362-89-9 Tricarbonyl[(1,2,3,4,5-η)-heptahydro-1,2-dicarbapentaborato(2-)]iron, B -00321
 33393-62-3 Diisopinocampheylmethylhydroborate; (3*R*,3'*R*)-*form*, *in* B -01184
 33441-65-5 Chloro(diethylamino)phenylborane, B -00662
 33441-66-6 Chloro(dipropylamino)phenylborane, B -00773
 33441-67-7 Chloro(dibutylamino)phenylborane, B -00909
 33441-68-8 Chloro(diisopropylamino)phenylborane, B -00772
 33586-48-0 3-Methoxy-7-phenyl-3-borabicyclo[3.3.1]nonane, B -00954
 33673-18-6 3-Methyl-1-phenylborolane, B -00727
 33680-33-0 (η⁵-2,4-Cyclopentadien-1-yl)[(η⁶-phenyl)triphenylborato(1-)]ruthenium, B -01311
 33849-20-6 Dicarbonyl[hydrotris(pyrazolato)borato(1-)]iodoruthenium, B -00723
 33849-21-7 Bromodicarbonyl[hydrotris(pyrazolato)borato(1-)]ruthenium, B -00721
 33849-22-8 Dicarbonylchloro[hydrotris(pyrazolato)borato(1-)]ruthenium, B -00722
 34239-26-4 Bis(bicyclo[2.2.1]hept-2-yl)borane; *exo,exo-form*, *in* B -00905
 34266-14-3 Dibutylborane, B -00567
 34420-17-2 ▶ Dihydroxy(2-phenylethyl)borane, B -00529
 34514-71-1 7,7-Dimethyl-7-stannaundecaborane(14), B -00156
 34514-72-2 7,7-Dimethyl-7-germaundecaborane(14), B -00155
 34524-20-4 ▶ Boromycin, B -01391
 34540-15-3 ▶ Ethyl(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)aluminum, B -00285
 34540-16-4 ▶ Methyl(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)aluminum, B -00212
 34540-17-5 Ethyl[(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)]gallium, B -00287
 34540-18-6 Ethyl(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)aluminum; Bis-THF adduct, *in* B -00285
 34540-19-7 Ethyl[(7,8,9,10,11-η)undecahydro-7,9-dicarbaundecaborato(2-)]gallium, B -00288
 34606-90-1 ▶ Ethyl(7,8,9,10,11-η)undecahydro-7,9-dicarbaundecaborato(2-)aluminum, B -00286
 34629-66-8 Dibutyl[*N*-(iminophenylmethyl)-benzenecarboximidamidato-*N¹,N^{N'}*]boron, B -01201
 34629-68-0 [*N*-(1-Iminoethyl)ethanimidamidato-*N',N''*]dipropylboron, B -00708
 34720-85-9 Diisopinocampheylmethylhydroborate; Li salt, *in* B -01184
 35237-72-0 Difluoroborane trimethylamine, B -00194
 35331-48-7 Cyclohexyl(1,1,2-trimethylpropyl)borane, B -00806
 35449-24-2 Fluoroborane trimethylamine, B -00199
 35449-24-2 Fluorodihydro(trimethylamine)boron, *in* B -00002
 35450-18-1 Methylbis(methylseleno)borane, B -00184
 35825-58-2 Hydroxyborane, B -00007
 36005-35-3 Lithium 1,5,9-cyclododecanetriylhydroborate(1-), *in* B -00786
 36140-18-8 Chlorodicyclopentylborane, B -00681
 36140-19-9 Chlorodicyclohexylborane, B -00787
 36140-24-6 Dicyclopentylmethoxyborane, B -00738
 36329-85-8 ▶ Dihydroxy(3-phenylpropyl)borane, B -00593
 36534-27-7 Bis(1-methylborinato)cobalt, B -00768
 36534-31-3 Bis[(1,2,3,4,5,6-η)-1-phenylboratabenzene]cobalt, B -01189
 36548-55-7 Bis[(7,8,9,10,11-η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickel, B -00299
 36550-13-7 [(2,3,4,5,6-η)-Hexahydro-2,3-dicarbaheptaborato(2-)]methylgallium, B -00191
 36550-14-8 [(2,3,4,5,6-η)-Hexahydro-2,3-dicarbaheptaborato(2-)]methylindium, B -00192
 36594-41-9 Chloroborane diethyl ether, B -00265
 36606-35-6 Carbonyl[tetrahydroborato(1-)-*H,H'*]-bis(triphenylphosphine)rhodium, B -01361

- 36606-39-0 Carbonyl[(cyano-C)trihydroborato(1-)-N]-bis(triphenylphosphine)rhodium, B -01366
- 36733-09-2 Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(2-), B -00301
- 36934-17-5 Diethyl(3-methyl-2-butenyl)borane, B -00615
- 37185-23-2 (η^5 -2,4-Cyclopentadien-1-yl)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-), B -00502
- 37298-41-2 $\triangleright$ Bis(η^5 -2,4-cyclopentadien-1-yl)-[tetrahydroborato(1-)-H,H']niobium, B -00656
- 37298-49-0 (1,2-Dicarbadodecaboran(12)-3-yl)ferrocene, B -00781
- 37490-50-9 7-(Chloromethyl)-3-methoxy-3-borabicyclo[3.3.1]non-6-ene, B -00670
- 37490-52-1 6-Chloro-3-methoxy-7-methylene-3-borabicyclo[3.3.1]nonane, B -00669
- 37609-12-4 Dicyclohexyl-1-hexenylborane; (E)-form, in B -01090
- 37863-04-0 1-Boratricyclo[3.3.1.1^{3,7}]decane; Py complex, in B -00597
- 37981-95-6 (2-Methylcyclopentyl)dimethoxyborane, B -00555
- 38050-71-4 9-Methoxy-9-borabicyclo[3.3.1]nonane, B -00608
- 38117-56-5 2,3- μ -(Trimethylstannyl)-4,5-dicarbahexaborane(8), B -00354
- 38117-57-6 2,3- μ -(Trimethylplumbyl)-4,5-dicarbahexaborane(8), B -00353
- 38218-68-7 4,8-Dimethyl-2-(1,1,2-trimethylpropyl)-2-boratabicyclo[3.3.1]nonane; Li salt, in B -01016
- 38386-34-4 μ -2,4-Dicarbaheptaborane(7)-2,4-diyldilithium, B -00092
- 38403-08-6 Bis[2-hydroxybenzoato(2-)-O¹,O²]borate(1-), B -00883
- 38437-59-1 Carbonyl[tetrahydroborato(1-)-H,H']bis[tris(trimethylsilyl)methyl]phosphine]iridium, B -01275
- 38673-97-1 1-Boratricyclo[3.3.1.1^{3,7}]decane, B -00597
- 38721-52-7 $\triangleright$ L-Selectride, in B -00828
- 38762-27-5 Bis(diphenylboryl)methylamine, B -01266
- 38762-31-1 Bromobis(diethylamino)borane, B -00576
- 38816-64-7 Ruthenocenoboronic acid, B -00650
- 38834-21-8 Dicarboxyl[hydrotris(1H-pyrazolato-N¹)-borato(1-)-N²,N^{2'},N^{2''}][(1,2,3- η -2-methyl-2-propenyl)molybdenum, B -00950
- 38930-35-7 (η^5 -2,4-Cyclopentadien-1-yl)[(2,3,4,5,6- η)-hexahydro-2,3-dicarbahexaborato(2-)]iron, B -00482
- 38980-34-6 (η^5 -2,4-Cyclopentadien-1-yl)[(2,3,4,5,6- η)-hexahydro-2,3-dicarbahexaborato(2-)]hydroiron, B -00486
- 38999-41-6 μ -Silyl-2,3-dicarbahexaborane(8), B -00140
- 38999-56-3 Dicarboxyl(η^5 -2,4-cyclopentadien-1-yl)[(2,3- η)-heptahydro-4,5-dicarbahexaborato(1-)]iron, B -00592
- 39238-98-7 3-Methoxy-7-methylene-3-borabicyclo[3.3.1]nonane, B -00678
- 39546-62-8 3,5-Dimethylborinane, B -00497
- 39546-63-9 3,6-Dimethylborepane, B -00551
- 39659-89-7 Hydrotrimethoxyborate(1-); Li salt, in B -00196
- 40138-16-7 (2-Formylphenyl)dihydroxyborane, B -00464
- 40218-53-9 Ethyldiphenylborane, B -00886
- 40638-32-2 Dodecyltrimethylammonium tetraphenylborate, B -01379
- 40881-44-5 *m*-Tolyldimethoxyborane, in B -00473
- 40904-18-5 Bis[(7,8,9,10,11,12- η)-dodecahydro-7,9-dicarbadodecaborato(2-)]ferrate(2-); Bis-(tetraethylammonium) salt, in B -00304
- 40911-83-9 Tris(2-methylcyclopentyl)borane; *trans,trans,trans*-form, in B -01092
- 40958-61-0 (η^5 -2,4-Cyclopentadien-1-yl)[(7,8,9,10,11- η)-undecahydro-7,9-dicarbaundecaborato(2-)]iron, B -00503
- 41077-34-3 (η^5 -2,4-Cyclopentadien-1-yl)[η^6 -dodecahydrodicarbadodecaborato(2-)]iron, B -00508
- 41156-60-9 Cyclopentylmethoxyborane, B -00500
- 41156-66-5 Dichloroborane diethyl ether, B -00248
- 41285-63-6 Bis(1,2-dimethylpropyl)-1-octenylborane, B -01104
- 41593-72-0 Diiodoborane; Phosphine complex, in B -00004
- 41646-56-4 1-Thiadecaborane(9), B -00038
- 41655-27-0 1,2-Dicarbadecaborane(10), B -00141
- 41687-02-9 Tris[(4-dimethylamino)phenyl]methylum tetraphenylborate, B -01395
- 41816-82-4 Hydroxybis(2-thienyl)borane, B -00515
- 41929-38-8 Chlorodi-1-hexenylborane; (E,E)-form, in B -00788
- 42033-93-2 Tributyl(phenylethynyl)borate(1-); Li salt, in B -01150
- 42045-41-0 1-Hexynyltriphenylborate(1-); Li salt, in B -01243
- 42051-53-6 Bis(dimethylamino)-1-pyrrolylborane, B -00548
- 42126-47-6 Tributyl-1-hexynylborate(1-); Li salt, in B -01101
- 42126-50-1 Tricyclopentyl-1-hexynylborate(1-); Li salt, in B -01182
- 42126-51-2 Tricyclohexyl-1-hexynylborate(1-); Li salt, in B -01254
- 42278-67-1 $\triangleright$ Feeble hydride, in B -00634
- 42298-15-7 Trifluoro(trifluoromethyl)borate(1-); K salt, in B -00049
- 42371-64-2 9-Hexyl-9-borabicyclo[3.3.1]nonane, B -00922
- 42443-78-7 Bis[(7,8,9,10,11- η)-undecahydro-7,9-dicarbaundecaborato(2-)]nickelate(1-); Rb salt, in B -00302
- 42525-40-6 Difluoroborane methylamine, B -00069
- 42525-42-8 Difluoroborane dimethylamine, B -00126
- 42562-18-5 (2,4-Pentanedionato-O,O')dipropylboron, B -00741
- 42599-18-8 1-Hexenyldihydroxyborane; (E)-form, in B -00409
- 42769-15-3 (η^5 -2,4-Cyclopentadien-1-yl)[(5,6,7,8,9,10- η)-decahydro-6,9-dicarbadecaborato(2-)]iron, B -00501
- 42808-85-5 (η^5 -2,4-Cyclopentadien-1-yl)[(1,3,6,8- η)-octahydro-1,8-dicarbaoctaborato(2-)]iron, B -00489
- 42928-38-1 Dibutyl(1,1,2-trimethylpropyl)borane, B -00933
- 42928-43-8 9-*tert*-Butyl-9-borabicyclo[3.3.1]nonane, B -00790
- 42968-39-8 (η^5 -2,4-Cyclopentadien-1-yl)[(3,5,6,7,8- η)-octahydro-5,6-dicarbaoctaborato(2-)]iron, B -00490
- 42992-84-7 Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(2-); Di-K salt, in B -00296
- 43017-58-9 (Phenylamino)bis(2,4,6-trimethylphenyl)borane, B -01248
- 43070-44-6 Acetyldicarbonyl[hydrotris(1H-pyrazolato-N¹)-borato(1-)-N²,N^{2'},N^{2''}]iron, B -00846
- 43128-72-9 Tributyl-1-heptynylborate(1-); Li salt, in B -01132
- 43163-49-1 Dibutyl[N-(1-iminoethyl)benzamidato-N^N,O]boron, B -01036
- 43184-99-2 7-(Chloromethyl)-3-(2-propenyl)-3-borabicyclo[3.3.1]non-6-ene, B -00771
- 43185-52-0 Ethoxydiphenylborane, B -00888
- 43210-87-3 Dimethylaminotrihydroborate(1-); K salt, in B -00134
- 43338-13-2 Diiodoborane, B -00004
- 43625-73-6 (Dimethylphosphino)borane, B -00130
- 44772-63-6 Tetraethylborate(1-), B -00575
- 44873-49-6 Dichloro(diisopropylamino)borane, B -00416
- 45481-30-9 Phenylborane, B -00378
- 46147-74-4 Dihydrobis(1H-pyrazolato-N¹)borate(1-), B -00385
- 46755-84-4 Hydrotris(1H-pyrazolato-N¹)borate(1-), B -00589
- 47107-21-1 (Cyano-C)triphenylborate(1-), B -01115
- 49623-12-3 9-Cyclopentyl-9-borabicyclo[3.3.1]nonane, B -00862
- 49625-59-4 Hydrogen bis[1,2,3-propanetriolato(2-)-O¹,O²]borate(1-), B -00410
- 49777-66-4 (2-Acetyl-3-furanyl)dihydroxyborane, B -00381
- 50328-28-4 Pyridinium tetraphenylborate, B -01312
- 50517-71-0 Methoxybis(2,4,6-trimethylphenyl)borane, B -01126
- 50517-74-3 Ethylbis(2,4,6-trimethylphenyl)borane, B -01142
- 50543-71-0 1-Hexynyltriocetylborate(1-); Li salt, in B -01328
- 50543-73-2 Trihexyl-1-octynylborate(1-); Li salt, in B -01285
- 50543-74-3 Trihexyl(phenylethynyl)borate(1-); Li salt, in B -01282
- 50543-75-4 Tricyclopentyl-1-octynylborate(1-); Li salt, in B -01223
- 50571-15-8 1,7-Dicarbadodecaborane(12)-1,7-dicarboxylic acid, B -00278

- 50589-33-8 (3-Aminopropyl)dibutylborane, B -00752
 50647-92-2 Bis(cyclopentadienyl)lead boron trifluoride, B -00646
 51006-66-7 Trifluoroborane carbonyl, B -00048
 51134-66-8 Tris(2-methylcyclopentyl)borane, B -01092
 51151-11-2 (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt(1+); Hexafluorophosphate, *in* B -00985
 51159-91-2 Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(1-), B -00300
 51159-92-3 Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]nickelate(1-); Tetramethylammonium salt, *in* B -00300
 51177-52-7 Tricarbonyl[(2,3,4,5,6- η)-hexahydro-2,3-dicarbahexaborato(2-)]iron, B -00318
 51177-77-6 (η^5 -2,4-Cyclopentadien-1-yl)[(2,3,4,5,6- η)-heptahydro-2,5-dicarbahexaborato(1-)- H^μ]-iron, B -00485
 51203-46-4 Tricarbonyl[(3,4,5,6,7- η)-heptahydro-3,5-dicarbaheptaborato(2-)]iron, B -00322
 51259-50-8 Trifluoromethoxyborate(1-), B -00058
 51329-60-3 ▶Cyanoborane 4-methylmorpholine, B -00408
 51329-61-4 Cyanoborane dimethylamine, B -00176
 51475-51-5 9-Isopropyl-9-borabicyclo[3.3.1]nonane, B -00737
 51531-21-6 2-Propenylborane, B -00160
 51685-18-8 (2-Aminoethoxy)diphenoxyborane, B -00893
 51783-26-7 Bis(dimethylamino)(1-methyl-2-propenyl)borane, B -00568
 51783-27-8 2-Butenylbis(dimethylamino)borane, B -00569
 51805-68-6 Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]cuprate(1-), B -00295
 51823-76-8 Tris[(trimethylstannyl)oxy]borane, B -00638
 51839-61-3 (η^5 -2,4-Cyclopentadien-1-yl)[hydrotris(1-pyrazoyl)borato]cobalt(1+); Iodide, *in* B -00887
 51851-75-3 2-Propenylidipropylborane, B -00616
 51851-76-4 Dibutyl-2-propenylborane, B -00743
 51860-59-4 Dimethyl(trimethylsilylamino)borane, B -00352
 51868-94-1 Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(2-), B -00298
 52015-82-4 [Hydrotris(1*H*-pyrazolato- N^1)borato(1-)- $N^2, N^{2'}, N^{2''}$](η^5 -pentamethylcyclopentadienyl)rhodium(1+); Hexafluorophosphate, *in* B -01125
 52015-87-9 (η^6 -Benzene)[hydrotris(1*H*-pyrazolato- N')borato(1-)- $N^2, N^{2'}, N^{2''}$]ruthenium(1+); Hexafluorophosphate, *in* B -00949
 52102-14-4 Oxybis[dipropylborane], B -00835
 52102-17-7 9-Ethyl-9-borabicyclo[3.3.1]nonane, B -00689
 52138-78-0 Pentacarbonyl[(cyano-*C*)trihydroborato(1-)- N]-chromate(1-); Tetramethylammonium salt, *in* B -00358
 52251-52-2 Dicyclohexylhexylborane, B -01099
 52337-56-1 (Cyano-*C*)triphenylborate(1-); Cs salt, *in* B -01115
 52374-64-8 Carbonyl[hydrotris(1*H*-pyrazolato- N^1)borato(1-)- $N^2, N^{2'}, N^{2''}$]copper, B -00645
 52470-75-4 (η^5 -2,4-Cyclopentadien-1-yl)[dihydrobis(1*H*-pyrazolato- N^1)borato(1-)- $N^2, N^{2'}$](trifluoromethyl)cobalt, B -00765
 52504-76-4 Carbonyl[hydrotris(1*H*-pyrazolato- N')borato(1-)]-diiodorhodium, B -00648
 52660-29-4 Hydrogen [2,3-dihydroxypropyl octadecanoate(2-)] [1,2,3-propanetriolato(2-)- O^1, O^2]borate(1-), B -01256
 52660-30-7 Hydrogen bis[2,3-dihydroxypropyl octadecanoate(2-)]borate(1-), *in* B -01386
 52660-31-8 Hydrogen[2,3-dihydroxypropyl hexadecanoate(2-)] [1,2,3-propanetriolato(2-)- O^1, O^2]borate(1-), B -01212
 52668-35-6 [(1,2,5,6- η)-1,5-Cyclooctadiene][hydrotris(1*H*-pyrazolato- N^1)borato(1-)- $N^2, N^{2'}$]rhodium, B -01033
 52668-39-0 Bis(ethene)[hydrotris(1*H*-pyrazolato- N)borato(1-)- $N^2, N^{2'}$]rhodium, B -00850
 52920-74-8 Chloroborane dimethylamine, B -00133
 52920-77-1 *N,N*-Dimethylmethanamine methylborane, *in* B -00064
 52920-78-2 Methylborane *N*-methylmethanamine, *in* B -00064
 52950-75-1 Trihydromethylborate(1-); Li salt, *in* B -00068
 53042-33-4 Dimethylaminotrihydroborate(1-); Li salt, *in* B -00134
 53241-68-2 Bis(3,5-dimethyl-1*H*-pyrazolato- N')dihydroborate(1-); K salt, *in* B -00672
 53317-06-9 9-(1-Methylpropyl)-9-borabicyclo[3.3.1]nonane, B -00793
 53317-08-1 9-(2-Propenyl)-9-borabicyclo[3.3.1]nonane, B -00735
 53363-10-3 Tricarbonyl[η^4 -pentahydrodicarbapentaborato(2-)]iron, B -00159
 53451-55-1 Octahydrotriborate(1-); Tetrabutylammonium salt, *in* B -00021
 53535-83-4 9-Cyclohexyl-9-borabicyclo[3.3.1]nonane, B -00913
 53678-60-7 Ethoxydipropylborane, B -00572
 53729-64-9 Aqua[bis[μ -[(2,3-butanedione dioximato)(2-)- $O:O'$]]-[tetrafluorodiborato(2-)- N, N', N'', N''']methylcobalt, B -00609
 53831-70-2 2-Ethyl-4-methylimidazolium tetraphenylborate, B -01322
 53852-42-9 Dicarbonyl[(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt, B -00843
 53860-54-1 Triethylammonium tetraphenylborate, B -01324
 53907-92-9 Diethoxyethylborane, B -00427
 54083-17-9 Tetracarbonyl[η^2 -dodecahydroheptaborato(1-)]ferrate(1-); Tetrabutylammonium salt, *in* B -00277
 54190-57-7 Tetracarbonyl(η^2 -heptaborane(11))iron, B -00257
 54215-81-5 Triiodoborane trimethylphosphine, B -00175
 54336-82-2 Dibromo(dipropylamino)borane, B -00411
 54336-83-3 Dibromo(dibutylamino)borane, B -00559
 54354-55-1 1-Hexenyldihydroxyborane; (*Z*)-form, *in* B -00409
 54575-49-4 ▶K-Selectride, *in* B -00828
 54688-79-8 Tricarbonyl[(1,2,3,4,5- η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole]iron, B -00731
 54706-17-1 Trichloroborane tributylamine, B -00817
 54706-18-2 Tribromoborane tributylamine, B -00816
 54721-42-5 [2-[(Methylimino)methyl]phenolato-*N,O*]diphenylboron, B -01137
 54748-47-9 Tricarbonyl[(1,2,3,4- η)-tetraborane(8)]iron, B -00165
 54787-85-8 Hydrotrimethoxyborate(1-), B -00196
 54816-18-1 Trihexyl-1-hexynylborate(1-); Li salt, *in* B -01257
 54853-77-9 Di- μ -carbonyldicarbonylbis[(1,2,3,4,5,6- η)-1-phenylboratabenzene]diiron, B -01277
 54853-78-0 Di- μ -carbonylbis[(1,2,3,4,5,6- η)-1-methylboratabenzene]diiron, B -00988
 54853-79-1 Bis[(1,2,3,4,5,6- η)-1-phenylboratabenzene]iron, B -01190
 54853-80-4 Bis[(1,2,3,4,5,6- η)-1-methylboratabenzene]iron, B -00769
 54926-82-8 Tributylphenylborate(1-); Li salt, *in* B -01084
 54948-31-1 1,1-Dibutyl-*N*-(1-phenylpropylidene)boranamine, B -01038
 54948-32-2 1,1-Dibutyl-*N*-(1-phenylbutylidene)boranamine, B -01081
 55073-27-3 Bis[(7,8,9,10,11,12- η)-dodecahydro-7,9-dicarbododecaborato(2-)]ferrate(2-), B -00304
 55168-92-8 Bis(1,2-dimethylpropyl)-1-hexenylborane, B -01019
 55188-36-8 1-Carbahexaborane(7), B -00070
 55266-92-7 Bis[η^6 -decahydro-*C,C'*-dimethyldicarbododecaborato(2-)]titanate(2-); Bis(tetramethylammonium) salt, *in* B -00587
 55326-91-5 [(1,2,3,4,5- η)-1-Methyl-2,4-cyclopentadien-1-yl][(η^6 -phenyl)triphenylborato(1-)]ruthenium, B -01320
 55552-70-0 3-Furanyldihydroxyborane, B -00219
 55580-29-5 Dimethylaminobis(methylthio)borane, B -00271
 55606-72-9 Chloroborane tetrahydrofuran, B -00238
 55652-50-1 Iodoborane dimethyl sulfide, B -00127
 55652-52-3 Bromoborane dimethyl sulfide, B -00124
 55663-16-6 [(2,6- η)Heptahydro-4,5-dicarbahexaborato(1-)]dimethylaluminum, B -00279
 55671-55-1 Dibromoborane dimethyl sulfide, B -00113

- 55744-43-9 ▶Bis(η^5 -2,4-cyclopentadien-1-yl)-[tetrahydroborato(1-)-*H,H'*]vanadium, B -00658
- 55848-21-0 Butoxydiethylborane, B -00570
- 55906-09-7 1-Silyl 1,5-dicarba-pentaborane(5), B -00122
- 55906-10-0 1-(Methylsilyl)-1,5-dicarba-pentaborane(5), B -00190
- 55926-39-1 Boratabenzene, B -00316
- 55951-86-5 Diethyl(hexylthio)borane, B -00717
- 55951-88-7 Diethyl(1-hexen-4-yloxy)borane, B -00704
- 55951-89-8 Diethyl(1,1-dimethyl-3-buten-1-yloxy)borane, B -00703
- 55967-65-2 1-Boratricyclo[3.3.1.1^{3,7}]decane triethylamine, B -00974
- 55967-67-4 3,5-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, B -00733
- 55967-68-5 [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)-tris(methylene)](pyridine)boron, *in* B -00733
- 55967-70-9 [2-Chloro-1,3,5-cyclohexanetriyltris(methylene)]-(pyridine)boron, *in* B -00595
- 55967-74-3 [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)-tris(methylene)][1,1'-oxybis(ethane)]boron, *in* B -00733
- 55969-64-1 1-Boratricyclo[3.3.1.1^{3,7}]decane; Et₂O complex, *in* B -00597
- 55988-45-9 Dimethylindium [η^4 -dodecahydrodecaborato(2-)-dimethylindate(1-)], B -00303
- 55988-46-0 [η^4 -Dodecahydrodecaborato(2-)]methylindium, B -00077
- 56009-95-1 Octahydropentaborate(1-); K salt, *in* B -00027
- 56050-29-4 9,9-Dibutyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -01015
- 56116-45-1 ▶Di-9*H*-fluoren-9-yl[tetrahydroborato(1-)-*H,H'*]-thallium, B -01278
- 56118-55-9 Bicyclo[2.2.1]hept-2-ylborane; *Exo-form*, *in* B -00487
- 56118-57-1 (2-Methylcyclopentyl)dimethoxyborane; (1*RS*,2*RS*)-*form*, *in* B -00555
- 56118-59-3 (1,1,2-Trimethylpropyl)borane; NEt₃ complex, *in* B -00420
- 56118-61-7 (2-Methylcyclopentyl)borane; (1*RS*,2*SR*)-*form*, Et₃N complex, *in* B -00834
- 56118-66-2 Cyclohexylborane triethylamine, B -00832
- 56118-68-4 (*N,N*-Diethylethanamine)(1,2-dimethylpropyl)dihydroboron, *in* B -00335
- 56296-15-2 2-Phenyl-6-aza-1,3-dioxo-2-boracyclocloctane, B -00655
- 56310-81-7 μ -1,2-Dicarbadodecaborane(12)-1,2-diyl disodium, B -00147
- 56347-95-6 Di-2-propenylpropylborane, B -00604
- 56347-96-7 Butyl-di-2-propenylborane, B -00687
- 56347-97-8 Hexyl-di-2-propenylborane, B -00792
- 56348-11-9 2-Methoxy-2-boratricyclo[3.3.1.1^{3,7}]decane, B -00677
- 56420-26-9 Bis(η^5 -2,4-cyclopentadien-1-yl)-bis[tetrahydroborato(1-)-*H,H'*]hafnium, B -00683
- 56464-75-6 1-Thiadodecaborane(11), B -00047
- 56465-05-5 Carbonylbis(triphenylphosphine)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]-ruthenium, B -01375
- 56465-06-6 Tricarbonyl[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, B -00333
- 56556-79-7 Dibutyl-1-hexynyl(1,1,2-trimethylpropyl)borate(1-); Li salt, *in* B -01155
- 56556-80-0 Dihexyl-1-octynyl(1,1,2-trimethylpropyl)borate(1-); Li salt, *in* B -01284
- 56598-29-9 Diiodoborane triethylamine, *in* B -00004
- 56701-60-1 2-Boratricyclo[3.3.1.1^{3,7}]decane, B -00598
- 56859-33-7 1,2,3,4,5,6,7-Heptaphenyl-7-borabicyclo[2.2.1]-hepta-2,5-diene, B -01392
- 56953-94-7 Dimethylbis(1*H*-pyrazolato-*N'*)borate(1-); Na salt, *in* B -00537
- 56962-83-5 Dicyclohexyl-1-hexenylborane; (*Z*)-*form*, *in* B -01090
- 57034-29-4 Hexaborane(10) compd. with trimethylphosphine(1:2), B -00461
- 57088-67-2 Tributylethynylborate(1-); Li salt, *in* B -00927
- 57404-82-7 [Bis(1,3,2-dioxaborolan-2-yl)methyl]lithium, B -00326
- 57436-41-6 Guanidinium tetraphenylborate, B -01268
- 57476-09-2 Bromodicyclopentylborane, B -00680
- 57476-23-0 Dicyclopentyl(methylthio)borane, B -00742
- 57476-24-1 Dicyclohexyl(methylthio)borane, B -00871
- 57476-26-3 Bromodihexylborane, B -00808
- 57527-11-4 Carbonyl(7-phenyl-1,7-dicarbadodecaboran(12)-1-yl)bis(triphenylphosphine)iridium, B -01390
- 57692-67-8 [(1,2,3,4,5,6- η)-2-Acetyl-1-methylboratabenzene][(1,2,3,4,5,6- η)-1-methylboratabenzene]iron, B -00895
- 57692-68-9 Bis(1-*tert*-butylborabenzene)iron, B -01079
- 57972-25-5 Hydrotris(2-methoxyethoxy)borate; Na salt, *in* B -00635
- 58178-51-1 1-Pyrrolylborane tetrahydrofuran, B -00542
- 58178-99-7 Hydrogen [2,3-dihydroxypropyl 9-octadecenoato(2-)] [1,2,3-propanetriolato(2-)-*O*¹,*O*²]borate(1-), B -01255
- 58748-90-6 Hydrogen [bis[3,3'-oxybis[1,2-propanediolato]]-(2-)-*O*¹,*O*²]borate(1-), B -00807
- 58776-50-4 [η^4 -Dodecahydrodecaborato(2-)]dimethylmethyltriphenylphosphoniumthallate(1-), *in* B -00157
- 58846-86-9 Bis[(2,3,4,6- η)-pentahydro-4,5-dimethyl-4,5-dicarba-hexaborato(1-)-*H* ^{μ}]iron, B -00584
- 58879-31-5 Dicyclopentyl(1,1,2-trimethylpropyl)borane, B -01012
- 58920-21-1 4-Azanonaborane(13), B -00036
- 58978-79-3 Methylhydrazine bis(borane), B -00076
- 59073-88-0 1-Phenylborinane, B -00728
- 59073-91-5 1-(2-Thienyl)borolane, B -00531
- 59269-92-0 4,5-Dihydro-1-phenylborepin, B -00764
- 59301-48-3 Cyanoborane ammonia, B -00065
- 59351-07-4 7-Thianonaborane(10), B -00034
- 59421-56-0 Hexacarbonyl[μ -[(1,4,5- η)-2,3,4,5- η)-pentahydro-2,4-dicarba-pentaborato(2-)]diiron, B -00513
- 59499-21-7 Iodoborane triphenylphosphine, B -01066
- 59499-23-9 Dihydroiodo(4-methylpyridine)boron, 10CCl, *in* B -00005
- 59560-21-3 Tributylmethylborate(1-); Cu(I) salt, *in* B -00880
- 59560-22-4 Methyltris(2-methylpropyl)borate(1-); Cu(I) salt, *in* B -00879
- 59560-23-5 Trihexylmethylborate(1-); Cu(I) salt, *in* B -01134
- 59598-77-5 Methyltripropylborate(1-); Cu(I) salt, *in* B -00718
- 59900-43-5 Borane 4-aminopyridine, B -00325
- 60134-95-4 (2-Ethylcyclopentyl)dimethoxyborane; *trans-form*, *in* B -00618
- 60172-17-0 Dihydrobis(triphenylphosphine)[(7,8,9,10,11- η)-undecahydro-7,9-dicarbaundecaborato(2-)]-ruthenium, B -01372
- 60172-19-2 Carbonylbis(triphenylphosphine)[(7,8,9,10,11- η)-undecahydro-7,9-dicarbaundecaborato(2-)]-ruthenium, B -01376
- 60172-21-6 Dihydrobis(triphenylphosphine)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]-ruthenium, B -01371
- 60217-34-7 Lithium triisobutylborohydride, *in* B -00980
- 60228-69-5 Bromoborane trimethylphosphine, B -00197
- 60228-73-1 Iodoborane trimethylphosphine, B -00201
- 60236-48-8 (*N,N*-Dimethylmethanamine)-dimethyl[tetrahydroborato(1-)-*H,H'*]aluminum, *in* B -00136
- 60236-49-9 Dimethyl[tetrahydroborato(1-)-*H,H'*](trimethylphosphine)aluminum, *in* B -00136
- 60284-40-4 Hydrotris(2-methylcyclopentyl)borate(1-); *trans,trans,trans-form*, Li salt, *in* B -01096
- 60334-09-0 (1-Methyl-2(1*H*)-pyridinimine-*N*²)tripropylboron, B -00971
- 60542-50-9 Sodium acetanilidoborohydride, *in* B -00526
- 60552-36-5 Bis[(1,2,3,4,5,6- η)-1-phenylboratabenzene]ruthenium, B -01192
- 60552-37-6 Bis[(1,2,3,4,5,6- η)-1-methylboratabenzene]ruthenium, B -00770
- 60587-19-1 Morpholinium tetraphenylborate, B -01303
- 60633-76-3 Cyanoborane, B -00050
- 60645-80-9 9-Cyano-9-hydro-9-boratabicyclo[3.3.1]nonane; Na salt, *in* B -00600
- 60764-69-4 Bis[(1,2,3,4,5,6- η)-1-phenylboratabenzene]osmium, B -01191

- 60788-33-2 Boranecarboxylic acid; NMe_3 complex, *in* B -00062
 60788-35-4 *N*-Ethylcarbamoyleborane trimethylamine, B -00441
 60806-02-2 Dihydroxy(2-phenylethenyl)borane; (*Z*)-form, *in* B -00520
 60824-29-5 9-Methyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00610
 60828-63-9 ▶ Dichloro(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, B -00663
 60828-64-0 Bis(dimethylamino)(1,2,3,4,5-pentamethyl-2,4-cyclopentadienyl)borane, B -00924
 60828-65-1 (1,2,3,4,5-Pentamethyl-2,4-cyclopentadien-1-yl)-dichloroborane trimethylamine, B -00865
 60840-45-1 Tricarbonyl[(1,2,3,4,5- η)-2-ethyl-1-phenyl-1*H*-borole]iron, B -00946
 60840-46-2 Dicarbonyl[(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]nickel, *in* B -01343
 60840-47-3 Tricarbonyl[(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]iron, B -01360
 61018-71-1 (3-Aminopropyl)dipropylborane, B -00633
 61061-78-7 1-Aza-4-borabicyclo[2.2.2]octane, B -00396
 61081-79-6 [(4,5,6,7,8,9- η)-Nonahydro-6,8-dicarbanonaborato(4-)]-bis(triphenylphosphine)ruthenium, B -01367
 61132-55-6 *N,N,N*-Tributyl-1-butanaminium trichlorophenylborate(1-), *in* B -00366
 61133-58-2 Phenylidichloroborane tributylamine, B -01086
 61134-33-6 Dimethylaminobis(diisopropylamino)borane, B -00940
 61209-21-0 (Butylthio)diphenylborane, B -00993
 61230-25-9 ▶ Aplasmomycin, B -01382
 61300-57-0 Diphenyl[1-(2-pyridinylamino)ethanolat]boron, B -01119
 61357-30-0 Dimethoxy(3-methyl-1,2-butadienyl)borane, B -00488
 61357-36-6 1-Boratricyclo[3.3.1.1^{3,7}]decane; THF complex, *in* B -00597
 61392-02-7 [2-Chloro-1,3,5-cyclohexanetriyltris(methylene)]-(tetrahydrofuran)boron, *in* B -00595
 61403-41-6 ▶ Tricarbonyl[nonahydropentaborato(2-)]iron, B -00193
 61423-62-9 1,3,5-Trimethyl-2,4,6-tris(methylthio)borazine, B -00453
 61491-75-6 Tricarbonyl[(1,2,5- η)-octahydropentaborato(3-)-*H*²]ferrate(1-); Tetrabutylammonium salt, *in* B -00166
 61525-93-7 Tricarbonyl[(2,3,4,5- η)-dicarbonyltrihydropentaborato(2-)]iron, B -00305
 61552-15-6 Tribromoborane dipropyl sulfide, B -00412
 61632-80-2 1-Boraadamantane 1,3,5,7-tetrazaadamantane, *in* B -00597
 61632-81-3 [1,3,5-Cyclohexanetriyltris(methylene)]-(ethanamine)boron, *in* B -00597
 61649-81-8 Dimethylborylferrocene; Py complex, *in* B -00767
 61659-89-0 [1-[(3,4-Dimethoxyphenyl)methyl]-1,2,3,4-tetrahydro-6-methoxy-2-methyl-7-isoquinolinol-*N*²]trihydroboron, B -01145
 61666-40-8 Trihydro(trifluoroacetato-*O*)borate(1-); Na salt, *in* B -00082
 61693-11-6 *N*-Methylmorpholinium tetraphenylborate, B -01314
 61707-35-5 1,1-Dimethyl-*N*-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)boranamine, B -00317
 61721-94-6 Dicyclohexylhydromethylborate(1-); Li salt, *in* B -00872
 61721-97-9 Tricyclopentylhydroborate(1-); Li salt, *in* B -00970
 61722-00-7 9-Phenyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00898
 61867-22-9 (2,2-Dimethyl-1-propaniminato)triethylborate(1-); Na salt, *in* B -00750
 61867-25-2 (2,2-Dimethyl-1-propaniminato)triethylborate(1-); Li salt, *in* B -00750
 61967-14-4 9-[3-Methyl-1-(1-methylethyl)-2-butenyl]-9-borabicyclo[3.3.1]nonane, B -01006
 61967-28-0 9-(2-Butenyl)-9-borabicyclo[3.3.1]nonane, B -00782
 62015-69-4 9-Acetoxy-9-borabicyclo[3.3.1]nonane, B -00679
 62059-31-8 9-(2-Aminoethoxy)-9-borabicyclo[3.3.1]nonane, B -00698
 62072-20-2 Dicyclohexyl-1-octenylborane; (*E*)-form, *in* B -01153
 62072-21-3 Di-1-octenyl(1,1,2-trimethylpropyl)borane, B -01211
 62072-21-3 Di-1-octenyl(1,1,2-trimethylpropyl)borane; (*E,E*)-form, *in* B -01211
 62072-25-7 Dicyclohexyl(2-phenylethenyl)borane; (*E*)-form, *in* B -01148
 62185-81-3 Borogluconic acid; Na salt, *in* B -00395
 62260-98-4 (Dichloromethyl)dihydroxyborane, B -00054
 62261-12-5 Diethyl(ethyl nitrocarbamato)borane pyridine, B -00777
 62276-26-0 9-(3,3-Dimethyl-1-butynyl)-9-borabicyclo[3.3.1]nonane, B -00907
 62306-78-9 (4-Formyl-2-furanyl)dihydroxyborane, B -00312
 62306-80-3 (5-Formyl-3-furanyl)dihydroxyborane, B -00315
 62349-87-5 Ethynyltriethylborate(1-); Li salt, *in* B -01156
 62392-14-7 Dibutyl(2-methyl-1,3-diphenyl-1,3-propanediiminato-*N,N'*)boron, B -01251
 62459-79-4 9-(Cyclohexylethynyl)-9-borabicyclo[3.3.1]nonane, B -00999
 62459-80-7 9-(5-Chloro-1-pentynyl)-9-borabicyclo[3.3.1]nonane, B -00852
 62459-81-8 9-(1-Hexynyl)-9-borabicyclo[3.3.1]nonane, B -00908
 62479-24-7 (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin]cobalt, *in* B -00848
 62479-25-8 Tricarbonyl[(2,3,4,5,6- η)-1,1-dimethyl-4-phenyl-1-sila-4-boracyclohexa-2,5-diene]iron, B -00947
 62479-26-9 Tricarbonyl[(1,2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin]iron, B -00945
 62496-51-9 4,4-Dimethyl-1-phenyl-1-bora-2,5-cyclohexadiene, B -00848
 62559-95-9 Dichlorobis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato]uranate(2-); Di-Li salt, octa-THF complex, *in* B -00294
 62572-50-3 (Diethylcarbomodithioato-*S,S'*)[(9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]-gold, B -00512
 62580-70-5 (η^5 -2,4-Cyclopentadien-1-yl)[η^6 -decahydrocarbadeborato(2-)]ferrate(1-); Tetramethylammonium salt, *in* B -00433
 62594-03-0 Cyclohexyloctyl(1,1,2-trimethylpropyl)borane, B -01158
 62594-04-1 Dicyclohexyl-1-hexenylborane, B -01090
 62630-46-0 Borane isocyanomethane, B -00105
 62654-64-2 Dimethylaminodi-1-propynylborane, B -00535
 62685-91-0 Tripropylborane trimethylamine, B -00837
 62685-92-1 Tributylborane trimethylamine, B -00981
 62705-36-6 (Diethylamino)diethynylborane, B -00534
 62731-43-5 9-[[[(Trifluoromethyl)sulfonyl]oxy]-9-borabicyclo[3.3.1]nonane, B -00596
 62785-41-5 Methylborylidene, B -00051
 62945-91-9 Diethyl(methylnitroacetato)borane, B -00494
 62980-53-4 Tricarbonyl[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin]iron, B -00987
 62980-54-5 Tricarbonyl[(1,2,3,4,5,6- η)-4-methyl-1-phenylboratabenzene]manganese, B -00944
 63011-71-2 Bromobis(2-bromo-1-hexenyl)borane; (*E,Z*)-form, *in* B -00774
 63011-73-4 Chlorobis(2-chloro-1-hexenyl)borane; (*E,Z*)-form, *in* B -00776
 63076-51-7 Cyclopentylidihydroxyborane, B -00332
 63115-77-5 6,8-Dithianonaborane(9), B -00033
 63181-05-5 2,3-Dicarba-1-plumbaheptaborane(6), B -00109
 63181-06-6 2,3-Dicarba-1-stannaheptaborane(6), B -00110
 63220-83-7 1,5-Cyclooctanedylethynyl(tetrahydrofuran)boron, *in* B -00659
 63220-86-0 9-(1-Hexynyl)-9-borabicyclo[3.3.1]nonane; THF complex, *in* B -00908
 63220-87-1 9-(3,3-Dimethyl-1-butynyl)-9-borabicyclo[3.3.1]nonane; THF complex, *in* B -00907
 63220-89-3 1,5-Cyclooctanediyl-1-octynyl(tetrahydrofuran)boron, *in* B -01003
 63220-90-6 1,5-Cyclooctanediyl(phenylethynyl)-(tetrahydrofuran)boron, *in* B -00989

- 63339-02-6 Tricarbonyl[(1,2,3,4,5- η)-3,4-diethyl-2,5-dihydro-1,2,5-thiadiborole]iron, B -00591
- 63348-81-2 Chloroborane dimethyl sulfide, B -00125
- 63348-82-3 Dichlorooctylborane, B -00554
- 63366-67-6 9-Dimethylamino-9-borabicyclo[3.3.1]nonane, B -00697
- 63371-86-8 Tris(methyldiphenylphosphine)-[tetrahydroborato(1-)-*H*]copper, B -01378
- 63374-84-5 [μ_4 -(Boryl-*B*:*H*:*H*:*H*')]dodecacarbonyl- μ -hydro-tetraruthenium, B -00756
- 63399-62-2 Bis(chloroacetato-*O*)difluoroborate(1-)-hydrogen fluoride(1:2:1), in B -00216
- 63462-42-0 Dichloroborane dimethyl sulfide, B -00114
- 63503-60-6 (3-Chlorophenyl)dihydroxyborane, B -00372
- 63637-24-1 Hydrotrimethoxyborate(1-); K salt, in B -00196
- 63706-76-3 Tricyclopentylhydroborate(1-); K salt, in B -00970
- 63706-85-4 Trihydroxyborate(1-); K salt, in B -00010
- 63706-88-7 Triisopropylhydroborate; K salt, in B -00632
- 63717-73-7 $\triangleright$ Hydrottris(2-methylpropyl)borate(1-); Li salt, in B -00829
- 63717-74-8 Hydrottriphenylborate(1-); Li salt, in B -01065
- 63717-91-9 Trihydroxyborate(1-); Li salt, in B -00010
- 63717-92-0 Tri-*tert*-butylhydroborate; Li salt, in B -00830
- 63720-12-7 Diphenyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N'*)-boron, B -01238
- 63787-76-8 Dibutylpropoxyborane, B -00751
- 63788-21-6 1-[(Trichlorosilyl)methyl]pentaborane(9), B -00074
- 63802-48-2 Tricyclohexylhydroborate(1-); K salt, in B -01097
- 63835-74-5 Tetramethylbis[*N*-(*N*-phenylethanethioamidato-*N*:*S*)]diboron, B -01147
- 63835-75-6 Tetramethylbis[μ -(*N*-phenylbenzenecarbothioamidato-*N*:*S*)]diboron, B -01323
- 63835-77-8 Tetraphenylbis[μ -(*N*-phenylethanethioamidato-*N*:*S*)]diboron, B -01380
- 63838-59-5 2-[(Chlorodimethylsilyl)methyl]pentaborane(9), B -00213
- 63942-77-8 9-(2-Methylpropyl)-9-borabicyclo[3.3.1]nonane, B -00794
- 63942-78-9 9-(1,2-Dimethylpropyl)-9-borabicyclo[3.3.1]nonane, B -00869
- 63942-79-0 9-(2-Methylcyclopentyl)-9-borabicyclo[3.3.1]nonane; *trans*-form, in B -00919
- 63947-71-7 (Acetato-*O*)trihydroborate(1-); Na salt, in B -00106
- 63964-04-5 Tributyl(ethoxyethyl)borate(1-); Li salt, in B -01018
- 64012-96-0 Bis[4-amino-2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); H deriv., in B -00884
- 64045-91-6 9-Borabicyclo[3.3.1]nonane dimethyl sulfide, B -00705
- 64045-92-7 9-Borabicyclo[3.3.1]nonane triethylamine, B -00931
- 64045-93-8 9-Borabicyclo[3.3.1]nonane tetramethylethylenediamine, B -00934
- 64045-94-9 9-Borabicyclo[3.3.1]nonane 4-methylpyridine, B -00904
- 64045-95-0 9-Borabicyclo[3.3.1]nonane pyridine, B -00853
- 64065-16-3 (*N,N*-Diethylethanamine)dihydro(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)boron, in B -00690
- 64070-34-4 9-Borabicyclo[3.3.1]nonane trimethylamine, B -00749
- 64081-12-5 9-Isopinocampheyl-9-boratabicyclo[3.3.1]nonane; Li salt, in B -01082
- 64103-53-3 Tricarbonyl[η^5 -heptahydro-*C,C'*-dimethyldicarbaborato(2-)]iron, B -00491
- 64106-79-2 9-(2,6,6-Trimethylbicyclo[3.1.1]hept-3-yl)-9-borabicyclo[3.3.1]nonane; (1'*R*)-form, in B -01083
- 64106-86-1 [2-(1-Cyclohexen-1-yl)ethenyl]bis(1,2-dimethylpropyl)borane; (*E*)-form, in B -01089
- 64160-46-9 Chloroborane trimethylphosphine, B -00198
- 64167-75-5 Dipropyl[1-(2-pyridinylamino)-1-butanolato]boron, B -00967
- 64285-24-1 (1-Butyl-1-hexenyl)dimethylborane; (*Z*)-form, in B -00805
- 64285-25-2 (1-Butyl-1-hexenyl)dichloroborane; (*Z*)-form, in B -00691
- 64323-54-2 Bis(1-butyl-1-hexenyl)chloroborane; (*Z,Z*)-form, in B -01154
- 64350-68-1 Di- μ -hydrodihydrobis(2,6,6-trimethylbicyclo[3.3.1]hept-3-yl)diboron, in B -00690
- 64466-24-6 Hydrogen dihydroxy[1,2,3-propanetriolato(2-)-*O*¹,*O*²]borate(1-), B -00181
- 64537-93-5 Dibutyl[*N*-2-(1-iminoethyl)cyclohexylidene]-4-methylbenzenaminato-*N,N'*]boron, B -01222
- 64537-96-8 Dibutyl[4-chloro-*N*-[2-(1-iminoethyl)-cyclohexylidene]benzenaminato-*N,N'*]boron, B -01205
- 64537-99-1 Dibutyl[*N*-(3-imino-1,3-diphenylpropylidene)-benzenaminato-*N,N'*]boron, B -01315
- 64578-48-9 Dibutyl[2-chloro-*N*-[2-(1-iminoethyl)-cyclohexylidene]benzenaminato-*N,N'*]boron, B -01204
- 64770-03-2 Dibromohexylborane, B -00405
- 64770-04-3 Dibromohexylborane; Me₂S adduct, in B -00405
- 64770-06-5 Dibromo(1-ethylbutyl)[thiobis[methane]]boron, in B -00404
- 64770-10-1 Dibromocyclopentylborane dimethyl sulfide, B -00498
- 64770-12-3 Dibromo(2-methylcyclohexyl)borane dimethyl sulfide; (1*RS*,2*SR*)-form, in B -00617
- 64800-07-3 Dibutyl[*N*-2-pyridinyl-2-pyridinaminato-*N,N'*]-boron, B -01077
- 64800-08-4 Diethyl(*N*-2-pyridinyl-2-pyridinaminato-*N,N'*)-boron, B -00894
- 65074-58-0 Hydrogen bis[2,3-dihydroxypropylhexadecanoato(2-)]borate(1-), in B -01374
- 65139-97-1 Trimethoxymethylborate(1-); Cu(I) salt, in B -00272
- 65139-98-2 Trifluoromethylborate(1-); Cu salt, in B -00057
- 65139-99-3 Butyltrifluoroborate(1-); Cu(I) salt, in B -00233
- 65167-44-4 Triethylmethylborate(1-); Cu(I) salt, in B -00510
- 65188-99-0 (η^5 -2,4-Cyclopentadien-1-yl)[η^5 -decahydropentaborato(1-)]iron, B -00349
- 65281-20-1 4-(Ethoxycarbonyl)-3-diethylaminophenylammonium tetraphenylborate, B -01365
- 65293-66-5 Dihydrobis(trimethylphosphine)boron(1+); Bromide, in B -00457
- 65297-47-4 [(1,2,3,5,6- η)-2,5-Cyclooctadien-1-yl][(6-phenyl)triphenylborato(1-)]ruthenium, B -01336
- 65344-93-6 Ethoxydipentylborane, B -00818
- 65460-22-2 Tetrakis(benzyloxy)borate; Na salt, in B -01301
- 65465-56-7 Bis[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ferrate(1-), B -00297
- 65467-78-9 (Ethoxyethyl)tripropylborate(1-); Li salt, in B -00873
- 65478-40-2 Isopropylbis(dimethylamino)borane, B -00511
- 65481-79-0 9-Phenyl-9-borabicyclo[3.3.1]nonane; Piperidine complex, in B -00896
- 65568-73-2 *tert*-Butylbis(methylthio)borane, B -00430
- 65568-78-7 Tri-*tert*-butylborane ammonia, B -00836
- 65684-82-4 (Ethoxyethyl)tripentylborate(1-); Li salt, in B -01133
- 65734-27-2 [2-[1-(4,5-Dihydro-1*H*-imidazol-2-yl)-2-phenylethyl]phenyl]dihydroxyborane, B -01031
- 65774-56-3 (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6- η)-1-phenylboratabenzene]iron, B -00986
- 65777-53-9 (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,4,5,6- η)-1-methylboratabenzene]iron, B -00726
- 65859-85-0 Butyltrimethylborate(1-); Li salt, in B -00509
- 65859-86-1 Butyltriphenylborate(1-); Li salt, in B -01195
- 65888-45-1 Bis(η^5 -2,4-cyclopentadien-1-yl)-bis[tetrahydroborato(1-)-*H,H'*]uranium, B -00685
- 65907-94-0 Tribromoborane dipropyl selenide, B -00413
- 66035-11-8 Hydrogen bis[3-mercapto-1,2-propanediolato(2-)-*O,O'*]borate(1-) compd. with 1-octadecanamine (1:1), in B -00399
- 66035-56-1 [[2,2'-(Methylimino)bis[ethanolato]](2-)-*N,O,O'*]phenylboron, B -00730
- 66117-64-4 Hydroxybis(4-methylphenyl)borane, B -00889
- 66199-95-9 Dibutyl[*N*-(2-methylphenyl)-*N'*-2-pyridinylureato-*N,N'*]boron, B -01178

- 66200-01-9 [*N*-(2-Methylphenyl)-*N'*-2-pyridinylureato-*N,N'*,*O*]-diphenylboron, B -01265
- 66315-07-9 Bis(1,2-dimethylpropyl)(2-phenylethenyl)borane, B -01080
- 66315-08-0 Bis(2-methylcyclohexyl)(2-phenylethenyl)borane, B -01203
- 66315-09-1 (5-Chloro-1-pentenyl)bis(1,2-dimethylpropyl)borane, B -00973
- 66329-66-6 Dibutyl[*N*-(2-methylphenyl)-*N'*-2-pyridinylureato-*N,N'*,*O*]boron, B -01179
- 66338-32-7 Methyl(2-methyl-4-bromophenyl)aminochloro(2-methylphenyl)borane, B -00948
- 66338-33-8 [Methyl(4-bromophenyl)amino]chloro(phenyl)borane, B -00844
- 66352-26-9 7-(Borylmethyl)-3-methoxy-3-borabicyclo[3.3.1]nonane, B -00699
- 66585-84-0 [4-Ethyl-2-[3-ethyl-5-methoxy-4-methyl-2*H*-pyrrol-2-ylidene)methyl]-3,5-dimethyl-1*H*-pyrrolato-*N*¹,*N*²]difluoroboron, B -01034
- 66616-02-2 1-Octynyltripentylborate(1-); Li salt, *in* B -01225
- 66632-42-6 Cyanoborane methylamine, B -00117
- 66632-43-7 Cyanoborane pyridine, B -00379
- 66632-44-8 Cyanoborane aniline, B -00468
- 66632-45-9 Cyanoborane 4-methylaniline, B -00527
- 66794-43-2 Trimethoxyborane ammonia, B -00205
- 66921-70-8 Hexacarbonylbis[μ-[(1,2,3,4,5-η:1,2,3,4,5-η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole]](iron)dimanganese, B -01202
- 66921-71-9 Tricarbonyl[(η⁵-2,4-cyclopentadien-1-yl)iron]-[μ-[(1,2,3,4,5-η:1,2,3,4,5-η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole]]manganese, B -00995
- 66951-21-1 3,6-Dimethyl-1-octylborepane, B -01021
- 67007-35-6 Triphenylborane guanidine, B -01120
- 67029-02-1 Tetrafluoro[μ-[[1,1'-(1,4-phenylene)bis[3-(4-ethylphenyl)-1,3-propanedionato]](2-)-*O*¹,*O*³:*O*¹,*O*³]]diboron, B -01300
- 67036-04-8 Borane 2-ethoxy-*N,N*-dimethylethylamine, B -00445
- 67036-07-1 Borane *N,N*-dimethyl(2-methoxyethyl)amine, B -00351
- 67109-24-4 Tetrafluoro[μ-[[1,1'-(1,3-phenylene)bis[3-(4-methoxyphenyl)-1,3-propanedionato]](2-)]-diboron, B -01276
- 67158-11-6 Tetracarbonyl[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1*H*-borepin]chromium, *in* B -00764
- 67158-12-7 Tetracarbonyl[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1*H*-borepin]molybdenum, *in* B -00764
- 67158-13-8 Tetracarbonyl[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1*H*-borepin]tungsten, *in* B -00764
- 67158-14-9 Carbonyl(η²-2,4-cyclopentadien-1-yl)-[(1,2,3,6,7-η)-4,5-dihydro-1-phenyl-1*H*-borepin]manganese, B -01068
- 67177-55-3 Bis(trifluoroacetoxo)borane, B -00215
- 67194-38-1 Fluorodihydro(triphenylphosphine)boron, *in* B -00002
- 67194-40-5 Fluorodihydro(dimethylamine)boron, *in* B -00002
- 67194-41-6 Fluorodihydro(methylamine)boron, *in* B -00002
- 67226-44-2 Fluorodihydro(trimethylphosphine)boron, *in* B -00002
- 67276-05-5 Tricyclopentylhydroborate(1-); Na salt, *in* B -00970
- 67276-06-6 Tricyclohexylhydroborate(1-); Na salt, *in* B -01097
- 67276-08-8 Dodecahydro-9*b*-borataphenylene; Na salt, *in* B -00786
- 67328-91-0 Chlorohydrobis(triphenylphosphine)-[(7,8,9,10,11-η)undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, B -01369
- 67335-72-2 Tributylhydroborate(1-); Li salt, *in* B -00831
- 67350-80-5 Chlorohydrobis(triphenylphosphine)-[(7,8,9,10,11-η)undecahydro-7,9-dicarbaundecaborato(2-)]ruthenium, B -01370
- 67374-56-5 Cyanoborane 3-methylpyridine, B -00470
- 67374-57-6 Cyanoborane 2-methylpyridine, B -00469
- 67374-58-7 Cyanoborane triethylamine, B -00504
- 67374-59-8 Cyanoborane trimethylphosphine, B -00250
- 67374-60-1 Cyanoborane triphenylphosphine, B -01117
- 67374-61-2 Cyanoborane trimethyl phosphite, B -00249
- 67374-62-3 Dichlorocyanoborane triethylamine, B -00499
- 67374-63-4 Dichlorocyanoborane pyridine, B -00362
- 67392-85-2 Dodecahydro-9*b*-borataphenylene, B -00786
- 67395-53-3 Hexafluoroisopropylideniminobis(dimethylamino)-borane, B -00483
- 67481-59-8 Bis[4-amino-2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); Na salt, *in* B -00884
- 67481-61-2 Bis[4-amino-2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); Rb salt, *in* B -00884
- 67492-50-6 (3,5-Dichlorophenyl)dihydroxyborane, B -00365
- 67494-93-3 Bis(4-*tert*-butyl-1,2-benzenediolato)borate; Na salt, *in* B -01139
- 67532-01-8 (1-Bromo-1-hexenyl)dicyclohexylborane, B -01085
- 67532-02-9 (1-Bromo-1-hexenyl)bis(1,2-dimethylpropyl)borane, B -01017
- 67532-03-0 (1-Bromo-1-hexenyl)dihexylborane, B -01103
- 67532-04-1 (1-Bromo-1-hexenyl)bis(2-methylpentyl)borane, B -01102
- 67535-57-3 Trichloroborane triphenylphosphine oxide, B -01054
- 67535-58-4 Tribromoborane triphenylphosphine oxide, B -01052
- 67553-90-6 9-(Phenylethynyl)-9-borabicyclo[3.3.1]nonane, B -00989
- 67564-13-0 (1-Bromo-1-hexenyl)dioctylborane, B -01213
- 67570-19-8 (2-Methyl-2-propenyl)dipropylborane, B -00702
- 67570-20-1 2-Butenyldibutylborane, B -00803
- 67574-75-8 Diphenylboryl(*N*-methylbenzimidoyl)benzamidinate, B -01290
- 67574-91-8 [*N*-(Iminophenylmethyl)-*N'*-propylbenzenecarboximidamido-*N'*,*N''*]dipropylboron, B -01174
- 67616-29-9 Triphenylborane 1-butylamine, B -01197
- 67682-90-0 2-Butenyldiethylborane, B -00549
- 67682-91-1 2-Butenyldipropylborane, B -00700
- 67682-92-2 Diethyl(pentylthio)borane, B -00631
- 67682-93-3 Dibutyl(pentylthio)borane, B -00878
- 67682-94-4 7-Pentyl-3-pentylthio-3-borabicyclo[3.3.1]non-6-ene, B -01094
- 67682-95-5 3-(Hexylthio)-7-pentyl-3-borabicyclo[3.3.1]non-6-ene, B -01131
- 67682-96-6 3-(Hexyloxy)-7-pentyl-3-borabicyclo[3.3.1]non-6-ene, B -01130
- 67682-97-7 Dibutyl(hexylthio)borane, B -00938
- 67682-98-8 Diethyl(hexyloxy)borane, B -00713
- 67682-99-9 Dibutyl(hexyloxy)borane, B -00936
- 67683-00-5 Dihexyloxypropylborane, B -00978
- 67683-02-7 7-Pentyl-3-(2-propenyl)-3-borabicyclo[3.3.1]non-6-ene, B -01004
- 67741-07-5 Diethyl(2-methyl-2-propenyl)borane, B -00550
- 67741-08-6 (3-Methyl-2-butenyl)dipropylborane, B -00744
- 67753-90-6 9-(2-Phenylethyl)-9-borabicyclo[3.3.1]nonane, B -00998
- 67753-91-7 9-Bicyclo[2.2.1]hept-2-yl-9-borabicyclo[3.3.1]nonane; *exo-form*, *in* B -00958
- 67753-92-8 9-Cyclooctyl-9-borabicyclo[3.3.1]nonane, B -01005
- 67808-82-6 Dibutyl[1-(phenylthio)pentyl]borane, B -01129
- 67813-27-8 Dicyclohexyldihydroborate(1-); Li salt, *in* B -00797
- 67813-45-0 Bis(trifluoroborane) tetramethylethylenediamine, B -00439
- 67813-46-1 9-Butyl-9-borabicyclo[3.3.1]nonane; Li salt, *in* B -00796
- 67826-85-1 9-(1-Hexenyl)-9-borabicyclo[3.3.1]nonane; (*Z*)-*form*, *in* B -00917
- 67826-88-4 2,4,4-Trimethyl-3-pentylborane tetramethylethylenediamine, B -00939
- 67826-89-5 Dihydro(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N*)(1,1,2-trimethylpropyl)boron, *in* B -00420
- 67826-92-0 Bis(monoisopinocampheylborane) tetramethylethylenediamine, B -01286
- 67940-39-0 Tributylhydroborate(1-); K salt, *in* B -00831
- 67940-40-3 Hydrotris(2-methylpropyl)borate(1-); K salt, *in* B -00829
- 67963-90-0 ▽1-Methylborolane, B -00329
- 67966-24-9 Dicyclohexyl-1-hexenyl-1-hexenylborate(1-); Li salt, *in* B -01253
- 67966-25-0 Tris(1,2-dimethylpropyl)hydroborate(1-); K salt, *in* B -00980
- 67975-72-8 Diphenylborane pyridine, B -01027
- 67975-88-6 Dihydroxy(phenylthiomethyl)borane, B -00475

- 67993-15-1 Dodecahydro-9*b*-borataphenylene; K salt, *in* B -00786
- 68004-72-8 Tris(1,2-dimethylpropyl)hydroborate(1-); Li salt, THF complex, *in* B -00980
- 68046-28-6 9-Butyl-9-(2-propenyl)-9-borabicyclo[3.3.1]nonane; Li salt, *in* B -00969
- 68132-95-6 Dimethyldiphenylborate(1-); Li salt, *in* B -00890
- 68140-33-0 Tetrakis(4-fluorophenyl)borate(1-); Li salt, *in* B -01229
- 68146-65-6 Tetrakis(1*H*-imidazolato-*N*¹)borate(1-); Na salt, *in* B -00762
- 68146-67-8 Tetrakis(1*H*-imidazolato-*N*¹)borate(1-); Tetramethylammonium salt, *in* B -00762
- 68193-75-9 Bis[trihydromethylborato(1-)-*H*,*H'*]magnesium, *in* B -00068
- 68250-27-1 1,3-Cyclopentadien-1-yl dimethylborane, B -00481
- 68250-29-3 1,4-Cyclopentadien-1-yl dimethylborane, B -00480
- 68264-40-4 Dimethyl[tetrahydroborato(1-)-*H*,*H'*]gallium, B -00137
- 68297-73-4 Monoisopinocampheylborane; Tetramethylethylenediamine complex, *in* B -00690
- 68297-75-6 Dihydro[thiobis(methane)](1,1,2-trimethylpropyl)boron, *in* B -00420
- 68307-66-4 Bis(diamylborane) ethylenediamine, B -01215
- 68344-23-0 Bis(η^6 -boratabenzene)iron, B -00651
- 68366-09-6 Ethylenediamine bis(diisopinocampheylborane), B -01385
- 68498-84-0 Dihydroxymethoxyborane, B -00067
- 68572-87-2 Dihydroxy(9-phenanthrenyl)borane, B -00885
- 68716-47-2 (2,4-Dichlorophenyl)dihydroxyborane, B -00363
- 69001-94-1 Triphenylborane hydroxylamine, B -01070
- 69021-83-6 [(1,2,5,6- η)-1,5-Cyclooctadiene][(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt, B -01121
- 69021-84-7 [(2,3,5,6- η)Bicyclo[2.2.1]hepta-2,5-diene][(1,2,3,4,5,6- η)-1-phenylboratabenzene]cobalt, B -01067
- 69044-16-2 Triphenylborane *N,N*-dimethylurea, B -01169
- 69080-35-9 Trifluoroborane 2-methylimidazole, B -00222
- 69080-38-2 Trifluoroborane imidazole, B -00158
- 69082-89-9 (1-Butyl-1-hexenyl)bis(1,2-dimethylpropyl)borane; (*Z*)-form, *in* B -01157
- 69082-90-2 (1-Butyl-1-hexenyl)dicyclohexylborane; (*Z*)-form, *in* B -01209
- 69102-10-9 9-Isopinocampheyl-9-boratabicyclo[3.3.1]nonane, B -01082
- 69102-10-9 1,5-Cyclooctanediylhydro(2,6,6-trimethylbicyclo[3.1.1]hept-3-yl)borate(1-), *in* B -01082
- 69109-12-2 Dipropylboryl-(*N*-methylcarbamoyle)-*N,N'*-dimethylbenzamidate, B -01039
- 69109-15-5 Dibutyl[N-2-(1-iminoethyl)cyclohexylidene]benzenaminato-*N,N'*]boron; B₂HCl, *in* B -01206
- 69109-16-6 Dibutyl[N-(2-iminophenylmethyl)cyclohexylidene]benzenaminato-*N,N'*]boron; B₂HCl, *in* B -01292
- 69138-05-2 Diisopropylbenzenecarboximidamidato-*N,N'*-diethylboron, B -01183
- 69138-06-3 (*N,N'*-Dimethylbenzenecarboximidamidato-*N,N'*)-diisopropylboron, B -00960
- 69138-07-4 (*N,N'*-Dimethylbenzenecarboximidamidato-*N,N'*)-dipropylboron, B -00961
- 69138-08-5 Dibutyl(*N,N'*-dimethylbenzenecarboximidamidato-*N,N'*)boron, B -01041
- 69202-83-1 (*N,N*-Dimethylbenzenecarboximidamidato-*N,N'*)-bis(2-methylpropyl)boron, B -01042
- 69206-21-9 Triethyl(1*H*-imidazolato-*N*¹)borate(1-); Li salt, *in* B -00613
- 69246-02-2 Tribromoborane dibutyl disulfide, B -00560
- 69289-42-5 Triethyl-1*H*-indol-1-ylborate(1-); Li salt, *in* B -00901
- 69319-82-0 Bis(2-methylcyclopentylborane) tetramethylethylenediamine; *trans*-form, *in* B -01111
- 69319-84-2 Dicyclohexyltetrahydro[μ -(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N:N'*)]diboron, *in* B -00401
- 69319-86-4 Dicyclopentyltetrahydro[μ -(*N,N,N',N'*-tetramethyl-1,2-ethanediamine-*N:N'*)]diboron, *in* B -00328
- 69322-44-7 9-(1-Pentenyl)-9-borabicyclo[3.3.1]nonane; (*E*)-form, *in* B -00863
- 69322-45-8 9-(1-Hexenyl)-9-borabicyclo[3.3.1]nonane; (*E*)-form, *in* B -00917
- 69322-47-0 9-(3,3-Dimethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane; (*E*)-form, *in* B -00915
- 69322-49-2 9-(2-Phenylethenyl)-9-borabicyclo[3.3.1]nonane; (*E*)-form, *in* B -00994
- 69322-51-6 9-(1-Ethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane; (*Z*)-form, *in* B -00916
- 69322-52-7 9-(1-Butyl-1-hexenyl)-9-borabicyclo[3.3.1]nonane, B -01088
- 69346-64-1 Triphenyl-1*H*-pyrrol-1-ylborate(1-); Li salt, *in* B -01187
- 69350-01-2 Triethyl-1*H*-pyrrol-1-ylborate(1-); Na salt, *in* B -00692
- 69350-02-3 Triethyl-1*H*-pyrrol-1-ylborate(1-); Li salt, *in* B -00692
- 69362-75-0 9-(4-Hexenyl)-9-borabicyclo[3.3.1]nonane, B -00918
- 69464-54-6 7-(Methoxymethyl)-3-(2-propenyl)-3-borabicyclo[3.3.1]non-6-ene, B -00859
- 69464-55-7 3-Methoxy-7-(methoxymethyl)-3-borabicyclo[3.3.1]non-6-ene, B -00736
- 69464-63-7 1-Boraadamantane 2-methylpyridine, *in* B -00597
- 69464-76-2 Dichloro(2,4,6-trimethylphenyl)borane, B -00590
- 69492-10-0 1-Boraadamantane 3-methylpyridine, *in* B -00597
- 69492-11-1 1-Boraadamantane 1-adamantylamine, *in* B -00597
- 69492-12-2 1-Boraadamantane octadecanamine, *in* B -00597
- 69513-15-1 Dibromomethylborane trimethylphosphine, B -00263
- 69513-16-2 Dibromomethylborane pyridine, B -00382
- 69513-17-3 Dibromomethylborane 4-methylpyridine, B -00479
- 69513-18-4 Bromodimethylborane trimethylphosphine, B -00344
- 69521-22-8 Dibromomethylborane trimethylamine, B -00262
- 69593-80-2 9-Cyclopentyl-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00864
- 69594-46-3 1,5-Diallyl-3-(methoxymethyl)-1-bora-2-cyclohexene, B -00857
- 69610-99-7 2-Butenylbis(dimethylamino)borane; (*Z*)-form, *in* B -00569
- 69611-00-3 2-Butenylbis(dimethylamino)borane; (*E*)-form, *in* B -00569
- 69646-58-8 *N,N'*-Diethylboryl-3,3',5,5'-tetramethyl-4,4'-diethyl-2,2'-dipyrromethene, B -01181
- 69765-80-6 Bromoborane diethyl ether, B -00261
- 69773-26-8 (Dimethylphosphino)borane; Homopolymer, *in* B -00130
- 69786-43-2 Tricyclohexylhydroborate(1-); Li salt, *in* B -01097
- 69798-76-1 (1-Bromo-2-methylbutyl)diethylborane; (1*RS*,2*SR*)-form, *in* B -00620
- 69804-77-9 Bicyclo[1.1.0]but-1-ylborane, B -00224
- 69809-42-3 Borane triphenylamine, B -01069
- 69809-43-4 Trimethylborane triphenylamine, B -01170
- 69874-56-2 1-Boraadamantane trimethylamine, *in* B -00597
- 69874-58-4 1-Boratricyclo[3.3.1.1^{3,7}]decane compd. with α -methyltricyclo[3.3.1.1^{3,7}]decane-1-methanamine(1:1), *in* B -00597
- 69891-00-5 (η^6 -Benzene)[(1,2,3,4,5,6- η)-1-phenylboratabenzene]ruthenium(1+); Hexafluorophosphate, *in* B -01028
- 69934-19-6 Hydroxy[2-[(1-phenylamino)ethylidene]amino]-phenyl]propylboron, B -01032
- 69961-35-9 2,6-Dichloro-2,6-diboraadamantane bis(dimethyl sulfide), B -00802
- 69961-36-0 2,6-Dichloro-2,6-diboraadamantane bis(pyridine), B -01074
- 69961-38-2 2,6-Diboratricyclo[3.3.1.1^{3,7}]decane, B -00543
- 69961-39-3 [μ -(1,3,5,7-Cyclooctanetetrayl-*C*¹,*C*⁵:*C*³,*C*⁷)]-dihydrobis(tetrahydrofuran)diboron, *in* B -00543
- 69969-98-8 $\triangleright$ Trichlorohydroborate(1-); Tetraethylammonium salt, *in* B -00001
- 69975-70-8 Trifluoroborane 2,3,3-trimethyl-3*H*-indole, B -00725
- 70021-19-1 Fluorotris(pentafluorophenyl)borate(1-); Li salt, *in* B -01048
- 70021-21-5 Tetrakis[4-(trifluoromethyl)phenyl]borate(1-); Li salt, *in* B -01296
- 70021-22-6 Tetrakis[3-(trifluoromethyl)phenyl]borate(1-); Li salt, *in* B -01295
- 70083-57-7 Methyltris(pentafluorophenyl)borate(1-); Li salt, *in* B -01112
- 70160-56-4 9-Iodo-9-borabicyclo[3.3.1]nonane dimethyl sulfide, B -00696
- 70160-57-5 9-Chloro-9-borabicyclo[3.3.1]nonane diethyl ether, B -00800
- 70160-58-6 9-Chloro-9-borabicyclo[3.3.1]nonane dimethyl sulfide, B -00695
- 70160-59-7 9-Bromo-9-borabicyclo[3.3.1]nonane dimethyl sulfide, B -00694

- 70177-26-3 Tetra-2-thienylborate(1-); Cs salt, *in* B -00983
 70177-29-6 Tetrakis(5-bromo-2-thienyl)borate(1-); Cs salt, *in* B -00982
 70177-30-9 Tetrakis(2,5-dimethyl-3-thienyl)borate(1-); Cs salt, *in* B -01249
 70204-53-4 Hydroxy[2-[[phenyl(phenylamino)methylene]amino-phenyl]propyl]boron, B -01194
 70262-74-7 Diphenylborane 2-aminopyridine, B -01029
 70338-02-2 9-Borabicyclo[3.3.1]nonane propylamine, B -00748
 70338-03-3 9-Borabicyclo[3.3.1]nonane isopropylamine, B -00747
 70338-04-4 9-Borabicyclo[3.3.1]nonane *tert*-butylamine, B -00809
 70338-05-5 9-Borabicyclo[3.3.1]nonane diethylamine, B -00810
 70338-07-7 9-Borabicyclo[3.3.1]nonane 2,6-dimethylpyridine, B -00956
 70338-09-9 9-Borabicyclo[3.3.1]nonane 1,4-diazabicyclo[2.2.2]octane, B -00925
 70338-10-2 9-Borabicyclo[3.3.1]nonane 2-methylpyridine, B -00903
 70338-11-3 9-Borabicyclo[3.3.1]nonane 2-ethylpyridine, B -00957
 70338-12-4 9-Borabicyclo[3.3.1]nonane 2-isopropylpyridine, B -01001
 70415-39-3 2-Furanyltripropylborate(1-); Li salt, *in* B -00867
 70415-41-7 2-Furanyltrihexylborate(1-); Li salt, *in* B -01210
 70426-41-4 [*N*-[(Cyclohexylamino)(cyclohexylimino)methyl]-*N'*-(1-methylethyl)-benzenecarboximidamido]dipropylboron, B -01317
 70426-42-5 (*N,N'*-Dicyclohexyl-*N'*-2-pyridinylguanidinato-*N''*,*N''*)diethylboron, B -01207
 70440-06-1 (*N,N'*-Dicyclohexyl-*N'*-2-pyridinylguanidinato-*N''*,*N''*)dipropylboron, B -01252
 70440-07-2 Dibutyl(*N,N'*-dicyclohexyl-*N'*-2-pyridinylguanidinato-*N''*,*N''*)boron, B -01283
 70440-08-3 (*N,N'*-Dicyclohexyl-*N'*-2-pyridinylguanidinato-*N''*,*N''*)diphenylboron, B -01325
 70440-09-4 Diphenyl(*N*-phenyl-*N'*-2-pyridinylureato-*N''*,*O*)-boron, B -01237
 70440-12-9 Diphenylboryl[1-(phenylcarbamoyl)pyridone-2-iminate], B -01236
 70440-86-7 2-Furanyltris(2-methylpropyl)borate(1-); Li salt, *in* B -01010
 70469-68-0 Dibutyl(2-imino-*N*-methyl-1(2*H*)-pyridinecarboxamidato-*N*^{*N*1},*N*^{*N*2})boron, B -00964
 70469-69-1 2-Furanyltris(1-methylpropyl)borate(1-); Li salt, *in* B -01009
 70658-61-6 ▶9-Borabicyclo[3.3.1]nonane; Dimer, *in* B -00545
 70658-70-7 O²⁷-De(2-amino-3-methyl-1-oxobutyl)boromycin, *in* B -01391
 70700-96-8 Benzonitrilecarbonyl(triphenylphosphine)[7-phenyl-1,7-dicarba-*closo*-dodecaborane(12)]-iridium, B -01350
 70719-24-3 9-Methyl-9-borabicyclo[3.3.1]nonane 4-dimethylaminobenzaldehyde, B -01078
 70868-92-7 (1,1,2-Trimethylpropyl)borane; PhNEt₂ complex, *in* B -00420
 71081-49-7 Dihydroxy(4-iodobutyl)borane, B -00244
 71111-17-6 Phenyltrimethylammonium tetraphenylborate, B -01342
 71231-69-1 Dibutyl(5-chloro-2-imino-*N*-methyl-1(2*H*)-pyridinecarboxamidato-*N*^{*N*1},*N*^{*N*2})boron, B -00959
 71231-70-4 Dibutyl(5-chloro-2-imino-*N*-phenyl-1(2*H*)-pyridinecarboxamidato-*N*^{*N*1},*N*^{*N*2})boron, B -01143
 71237-75-7 Chloro[(1,2,3,4,5-*η*)-1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl]boron(1+); Tetrachloroborate, *in* B -00661
 71245-46-0 Dibromo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, B -00660
 71245-47-1 Diiodo(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)borane, B -00665
 71245-48-2 Dichloro(1,2,3,4,5-pentamethyl-2,4-cyclopentadien-1-yl)(pyridine)boron, *in* B -00663
 71466-95-0 (Diethylamino)chloro(cyclopentenyl)borane, B -00606
 71466-96-1 Diethylaminochloro(1-butenyl)borane, B -00553
 71521-36-3 Dibutyl(*N*-phenyl-*N'*-2-pyridinylureato-*N,N'*)boron, B -01146
 71595-75-0 1,1'-Bipentaborane(9), B -00044
 71648-08-3 Dibromoborane diethyl ether, B -00247
 71661-61-5 (η⁵-2,4-Cyclopentadien-1-yl)[η²-decahydropentaborato(1-)]iron, B -00350
 71661-62-6 (η⁵-2,4-Cyclopentadien-1-yl)[η²-pentadecahydrodecaborato(2-)]iron, B -00355
 71781-96-9 5-Diisopropyliminio-2,2,4,4-tetraphenyl-2,4-diborata-1-oxa-3-oxoniacyclopentane, B -01334
 71844-38-7 Trihydromethylborate(1-), B -00068
 72035-25-7 Difluorobis(trifluoromethyl)borate(1-); K salt, *in* B -00078
 72035-26-8 Difluorobis(trifluoromethyl)borate(1-); H deriv., *in* B -00078
 72035-27-9 Difluorobis(trifluoromethyl)borate(1-); Cs salt, *in* B -00078
 72168-54-8 Propoxydipropylborane, B -00627
 72205-94-8 Dichlorooctyl[thiobis(methane)]boron, *in* B -00552
 72205-95-9 2-Methylcyclopentylidichloroborane; (1*RS*,2*SR*)-*form*, Me₂S complex, *in* B -00394
 72205-97-1 Dibromo(2-methylpentyl)[thiobis(methane)]boron, *in* B -00406
 72205-99-3 Dibromo(2-methylcyclopentyl)[thiobis(methane)]-boron, *in* B -00393
 72206-01-0 Diiodooctylborane dimethyl sulfide, B -00710
 72228-55-8 Dibromo-1-hexenylborane; (*E*)-*form*, *in* B -00392
 72228-56-9 Dibromo-1-hexenylborane; (*E*)-*form*, Me₂S adduct, *in* B -00392
 72228-62-7 Dibromo(1,3-dimethyl-1-butenyl)borane; (*Z*)-*form*, *in* B -00389
 72228-64-9 Dibromo(5-chloro-1-pentenyl)borane dimethyl sulfide; (*E*)-*form*, *in* B -00492
 72241-51-1 Bis(octadecyloxy)hydroxyborane, B -01358
 72251-55-9 Dicyclopentyl(1-*tert*-butylthio-1-propenyloxy)borane; (*Z*)-*form*, *in* B -01044
 72332-27-5 [1,2-Ethanedylbis(diphenylphosphine)-*P,P'*]-[(η⁶-phenyl)triphenylborato(1-)]rhodium, B -01396
 72334-76-0 Bis(methylthio)propylborane, B -00340
 72334-78-2 Butyl(dimethylamino)fluoroborane, B -00423
 72347-03-6 Tris(methyldiphenylphosphine)-[tetrahydroborato(1-)-*H*]silver, B -01377
 72401-05-9 Tricarbonyl[(3,4,5,6-*η*)-1,2-dihydro-1-methoxyborin]iron, B -00588
 72444-61-2 Di-μ-carbonyldicarbonylbis[(3,4,5-*η*)-1-(1,1-dimethylethyl)-2,3-dihydro-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl-B²,*N*¹]diiron; *cis-form*, *in* B -01340
 72449-20-8 9-[(1-Cyclohexyl-1-propenyl)oxy]-9-borabicyclo[3.3.1]nonane; (*Z*)-*form*, *in* B -01043
 72487-19-5 Dicyclohexyl(1-ethylbutyl)borane, B -01098
 72507-59-6 Ethynylborane, B -00080
 72525-30-5 Borane 1,4-oxathiane, B -00254
 72556-00-4 Bis[2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); Zn salt, decahydrate, *in* B -00883
 72556-01-5 Bis[2-hydroxybenzoato(2-)-*O*¹,*O*²]borate(1-); K salt, *in* B -00883
 72610-05-0 9-(2-Trimethylsilyl)ethyl-9-borabicyclo[3.3.1]nonane, B -00876
 72610-06-1 9-[1-(Trimethylsilyl)ethyl]-9-borabicyclo[3.3.1]nonane, B -00875
 72638-39-2 1,5-Cyclooctanediyl(pyridine)[2-(trimethylsilyl)ethyl]boron, *in* B -00876
 72646-18-5 4,4-Dimethyl-1-boratricyclo[3.3.1.1^{3,7}]decane, B -00734
 72695-25-1 Cyanoborane 3-(dimethylamino)propanenitrile, B -00398
 72695-27-3 Pyridine carboxyborane, B -00384
 72695-29-5 Tetramethylethylenediamine bis[(ethylcarbamoyl)-borane], B -00840
 72695-30-8 *N,N,N',N'*-Tetramethylethylenediamine bis(carboxyborane), B -00583
 72890-35-8 [(1,3-Dimethyl-1,3,5-cyclohexanetriyl)-tris(methylene)](tetrahydrofuran)boron, *in* B -00733
 72890-45-0 3-Methoxy-7-[(tetrahydro-2*H*-pyran-2-yl)oxy]-methyl]-3-borabicyclo[3.3.1]nonane, B -00968

- 72909-88-7 Dibutyl[3-(ethylamino)propyl-*C,N*]boron, B -00882
 72910-21-5 Dibutyl[3-(dimethylamino)propyl-*C,N*]boron, B -00881
 72910-22-6 (3-Dimethylaminopropyl)dipropylborane, B -00753
 72930-44-0 Bis[μ-[3,5-dimethylcyclohexanemethanolato(3-)]]-diboron, *in* B -00601
 72930-45-1 Dichloro(*N,N*-dimethylformamide-*O*)bis(pyridine)-[tetrahydroborato(1-)-*H*]rhodium, B -00855
 72997-22-9 1,5-Diallyl-3-methoxy-2-methyl-1-bora-2-cyclohexene, B -00858
 73062-42-7 9-(1-Octenyl)-9-borabicyclo[3.3.1]nonane; (*E*)-*form*, *in* B -01007
 73062-43-8 9-(10-Methoxycarbonyl-1-decenyl)-9-borabicyclo[3.3.1]nonane, B -01152
 73109-50-9 Cyanoborane tetrahydroisoquinoline, B -00654
 73117-36-9 Aquabis(trifluoroacetato-*O*)[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)hydroborato(1-)-*N*²,*N*^{2'},*N*^{2''}]iridium, B -01122
 73117-45-0 Dichloro[hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*^{2'},*N*^{2''}](1-isocyanobutane)rhodium, B -00897
 73117-58-5 Di-μ-chlorodichlorobis[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)hydroborato(1-)-*N*²,*N*^{2'},*N*^{2''}]-diiridium, B -01327
 73117-64-3 Aquabis(trifluoroacetato-*O*)[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)hydroborato(1-)-*N*²,*N*^{2'},*N*^{2''}]rhodium, B -01123
 73117-95-0 Dichloro(methanol)[tris(3,5-dimethyl-1*H*-pyrazolato-*N*¹)hydroborato(1-)-*N*²,*N*^{2'},*N*^{2''}]-rhodium, B -01000
 73137-32-3 (Acetonitrile)dichloro[hydrotris(1*H*-pyrazolato-*N*¹)borato(1-)-*N*²,*N*^{2'},*N*^{2''}]rhodium, B -00724
 73207-64-4 [(2,4-Dimethyl-1,3,5-cyclohexanetriyl)-tris(methylene)](tetrahydrofuran)boron, *in* B -00732
 73207-65-5 [(2,4-Dimethyl-1,3,5-cyclohexanetriyl)-tris(methylene)](pyridine)boron, *in* B -00732
 73624-47-2 9-(2,6,6-Trimethylbicyclo[3.1.1]hept-3-yl)-9-borabicyclo[3.3.1]nonane, B -01083
 73768-04-4 Diethyl(*N,N*-diethyl-*N'*-phenylthioureato)borane, B -00962
 73768-06-6 (*N,N*-Diethyl-*N'*-phenylthioureato)dimethylborane, B -00856
 73768-07-7 (*N,N*-Diethyl-*N'*-phenylthioureato)diphenylborane, B -01220
 73774-36-4 3-*tert*-Butyl-5-triphenylmethyl-1,2-benzenediolato-diphenylboron, B -01383
 73798-15-9 Borane ephedrine, B -00682
 73808-90-9 [α-Ethyl-α-[(*N*-methyl-*S*-phenylsulfonimidoyl)-methyl]benzenemethanol-*N*]trihydroboron, B -01035
 73808-91-0 Trihydro[5-methyl-2-(1-methylethyl)-1-[(*N*-methyl-*S*-phenylsulfonimidoyl)methyl]-cyclohexanol-*N*]boron, B -01087
 73852-17-2 (2,6-Dichlorophenyl)dihydroxyborane, B -00364
 73852-18-3 Dihydroxy(2,4,6-trichlorophenyl)borane, B -00359
 73895-21-3 (*N,N'*-Diphenylguanidine-*N''*)triphenylboron, B -01331
 73895-22-4 (*N,N'*-Diphenylguanidine-*N''*)tris(4-methylphenyl)-boron, B -01347
 73895-23-5 (*N,N'*-Diphenylguanidine-*N''*)tris(3-methylphenyl)-boron, B -01346
 73895-24-6 (*N,N'*-Diphenylguanidine-*N''*)tris(2-methylphenyl)-boron, B -01345
 73895-25-7 Tris(2,5-dimethylphenyl)borane *N,N'*-diphenylguanidine, B -01362
 73895-26-8 (*N,N'*-Diphenylguanidine-*N''*)tris(2-methoxyphenyl)boron, B -01348
 73895-27-9 (*N,N'*-Diphenylguanidine-*N''*)tris(4-methoxyphenyl)boron, B -01349
 73895-28-0 (*N,N'*-Diphenylguanidine-*N''*)tris(2-ethoxyphenyl)-boron, B -01363
 73895-29-1 (*N,N'*-Diphenylguanidine-*N''*)tris(4-ethoxyphenyl)-boron, B -01364
 73946-45-9 Borane trimethylphosphonium methylide, B -00284
 73959-25-8 Bis(2-methylcyclohexyl)propylborane; (1*RS*,1'-*RS*,2*RS*,2'*RS*)-*form*, *in* B -01047
 74142-77-1 9-(1-Octenyl)-9-borabicyclo[3.3.1]nonane, B -01007
 74142-78-2 9-(1-Hexenyl)-9-borabicyclo[3.3.1]nonane, B -00917
 74142-79-3 9-(1-Cyclohexen-1-yl)-9-borabicyclo[3.3.1]nonane, B -00906
 74142-80-6 9-(1-Cyclopenten-1-yl)-9-borabicyclo[3.3.1]nonane, B -00854
 74178-56-6 Methylbis(2,4,6-trimethylphenyl)borane, B -01124
 74178-57-7 Propylbis(2,4,6-trimethylphenyl)borane, B -01175
 74198-17-7 (2-Butoxyethoxy)bis(1,4,7,10-tetraoxaundecyl)borane, B -01159
 74198-18-8 Bis(1,4,7,10,13-pentaoxatetradecyl)(1,4,7-trioxaundecyl)borane, B -01287
 74198-20-2 Bis(1,4,7,10-tetraoxaundecyl)(1,4,7,10-tetraoxatetradecyl)borane, B -01261
 74198-23-5 (2-Butoxyethoxy)bis(1,4,7,10,13-pentaoxatetradecyl)borane, B -01262
 74210-95-0 Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O,O'*]borate(1-); Ca salt, *in* B -00668
 74210-99-4 Hydrogen bis[3,3',5,5'-tetrabromo[1,1'-biphenyl]-2,2'-diolato(2-)-*O,O'*]borate(1-) compd. with guanidine (1:1), *in* B -01227
 74211-02-2 Hydrogen bis[2,3-dibromo-1,4-butanediolato(2-)-*O,O'*]borate(1-) compd. with guanidine (1:1), *in* B -00533
 74211-04-4 Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O,O'*]borate(1-); Guanidinium salt, *in* B -00668
 74211-05-5 Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O,O'*]borate(1-); Na salt, *in* B -00668
 74222-94-9 Bis[3,4,5,6-tetrabromo-1,2-benzenediolato(2-)-*O,O'*]borate(1-); Tetraethylammonium salt, *in* B -00754
 74300-64-4 [2-[(2-Hydroxy-5-methylphenyl)azo]benzoato(2-)]phenylboron, B -01135
 74300-65-5 [2-[(2-Hydroxy-5-methoxyphenyl)azo]benzoato(2-)]phenylboron, B -01136
 74300-67-7 [2-[(2-Hydroxy-1-naphthalenyl)azo]benzoato(2-)]phenylboron, B -01216
 74300-72-4 [[2,2'-Azobis(phenolato)](2-)-*N,O,O'*]phenylboron, B -01049
 74300-73-5 [4-Hydroxy-3-[(2-hydroxy-1-naphthalenyl)azo]-benzenesulfonamidato(2-)]phenylboron, B -01186
 74300-74-6 Diphenyl[2-(2-hydroxy-4-methylphenylazo)-phenoxy]borane, B -01263
 74300-75-7 Diphenyl[2-(2-hydroxy-4-methoxyphenylazo)-phenoxy]borane, B -01264
 74300-85-9 (*N,N'*-Dicyclohexyl-*N''*-2-pyrimidinylguanidinato-*N,N''*)bis(1-methylethyl)boron, B -01224
 74300-86-0 Dibutyl(*N,N'*-dicyclohexyl-*N''*-2-pyrimidinylguanidinato-*N,N''*)boron, B -01273
 74302-86-6 [2-[(2-Hydroxyphenyl)azo]-4-methylphenolato(2-)]phenylboron, B -01116
 74302-87-7 [4-[(2-Hydroxyphenyl)azo]-1,3-benzenediolato(2-)]phenylboron, B -01050
 74302-88-8 [5-(Diethylamino)-2-[(2-hydroxy-5-methylphenyl)-azo](phenolato(2-))]phenylboron, B -01219
 74302-89-9 [5-(Diethylamino)-2-[(2-hydroxy-4-methylphenyl)-azo]phenolato(2-)]phenylboron, B -01218
 74302-90-2 [5-(Ethylamino)-2-[(2-hydroxy-5-methylphenyl)-azo]-4-methylphenolato(2-)]phenylboron, B -01193
 74302-92-4 [1-[(2-Hydroxyphenyl)azo]-2-naphthalenolato(2-)]phenylboron, B -01185
 74302-93-5 [5-Hydroxy-2-(phenylazo)phenoxy]diphenylborane, B -01230
 74302-95-7 Diphenyl[1-(phenylazo)-2-naphthylloxy]borane, B -01297
 74302-97-9 Diphenyl[1-(2-pyridinylazo)-2-naphthalenolato]boron, B -01288
 74302-98-0 Diphenyl[1-(phenylazo)-2-naphthylamino]borane, B -01298
 74313-99-8 (*N,N'*-Dicyclohexyl-*N''*-2-pyrimidinylguanidinato-*N,N''*)diphenylboron, B -01316
 74323-74-3 [*N*-[(Cyclohexylamino)(cyclohexylimino)methyl]-*N'*-(1-methylethyl)-benzenecarboximidamido]bis(2-methylpropyl)boron, B -01335

- 74344-31-3 (8-Quinolinolato- N^1, O^8)di-2-thienylboron, B -01026
 74354-44-2 (Triphenylphosphine)[(7,8,9- η)-undecahydro-5,6-dicarbadecaborato(1-)]copper, B -01141
 74354-45-3 Bis(triphenylphosphine)[(7,8,9- η)-undecahydro-5,6-dicarbadecaborato(1-)]silver, B -01368
 74354-46-4 Triphenylphosphine[(7,8,9- η)-undecahydro-5,6-dicarbadecaborato(1-)]silver, B -01140
 74365-24-5 9-(1,1,2-Trimethylpropyl)-9-boratabicyclo[3.3.1]nonane; Li salt, *in* B -00928
 74593-59-2 (η^5 -2,4-Cyclopentadien-1-yl)[(η^6 -phenyl)-triphenylborato(1-)]iron, B -01310
 74763-89-6 9-(Cyclopentylmethyl)-9-borabicyclo[3.3.1]nonane, B -00914
 74763-91-0 9-(Bicyclo[2.2.1]hept-2-ylmethyl)-9-borabicyclo[3.3.1]nonane; *endo-form*, *in* B -01002
 74763-92-1 9-(Bicyclo[2.2.1]hept-2-ylmethyl)-9-borabicyclo[3.3.1]nonane; *exo-form*, *in* B -01002
 74763-94-3 9-[(2-Methylcyclopentyl)methyl]-9-borabicyclo[3.3.1]nonane; *trans-form*, *in* B -00965
 74789-85-8 3-Bromo-7-methyl-3-borabicyclo[3.3.1]nonane, B -00603
 74789-87-0 3-Methoxy-7-(methoxymethyl)-3-borabicyclo[3.3.1]nonane, B -00740
 74861-59-9 Boranecarboxylic acid; NH_4 salt, *in* B -00062
 74882-66-9 $\triangleright$ Diethyl[tetrakis(1*H*-pyrazolato- N^1)borato(1-)- N^2, N^2]thallium, B -00997
 74911-29-8 1-Heptyltriethylborate(1-); Li salt, *in* B -01274
 74964-92-4 Bis(η^5 -2,4-cyclopentadien-1-yl)bis[μ -(3,4- η :3,4- η)-3,4-diethyl-2,5-dihydro-2,5-dimethyl-1,2,5-thiadiborole- $B^2, B^5, S^1: B^2, B^5, S^1$]triiron, B -01281
 74982-02-8 Bis[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-*B*]nickel, *in* B -00848
 74989-65-4 Bis[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]nickel, *in* B -00764
 74989-66-5 Bis[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-*B*]palladium, *in* B -00848
 74989-68-7 Bis[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]palladium, *in* B -00764
 74989-69-8 Bis[(2,3,5,6- η)-1,4-dihydro-4,4-dimethyl-1-phenylborin-*B*]platinum, *in* B -00848
 74989-71-2 Bis[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]platinum, *in* B -00764
 75018-24-5 Aminobis(2,4,6-trimethylphenyl)borane, B -01076
 75018-25-6 (Methylamino)bis(2,4,6-trimethylphenyl)borane, B -01128
 75018-26-7 (Isopropylamino)bis(2,4,6-trimethylphenyl)borane, B -01177
 75018-28-9 (Benzylamino)bis(2,4,6-trimethylphenyl)borane, B -01272
 75030-54-5 Chloro(1,1,2-trimethylpropyl)borane, B -00415
 75039-09-7 (η^5 -2,4-Cyclopentadien-1-yl)[(2,3,5,6- η)-1,4-dihydro-1,4-dimethyl-1,4-diborin]cobalt, B -00729
 75052-81-2 Chlorooctyl(1,1,2-trimethylpropyl)borane, B -00930
 75052-82-3 Butylhexyl(1,1,2-trimethylpropyl)borane, B -01022
 75052-87-8 Di-1-octenyl(1,1,2-trimethylpropyl)borane; (*E, Z*)-*form*, *in* B -01211
 75059-85-7 (1-*tert*-Butyl-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl- B^2, N^1)dicarbonyliodoiron, B -00990
 75067-06-0 Chloro(1,1,2-trimethylpropyl)borane; Me_2S adduct, *in* B -00415
 75095-29-3 [1-[(Methylimino)methyl]-2-naphthalenolato-*N, O*]diphenylboron, B -01235
 75109-70-5 Di- μ -carbonyldicarbonylbis[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-3-methyl-2-phenyl-1*H*-1,2-azaborol-3-yl- B^2, N^1]diiron; *trans-form*, *in* B -01340
 75126-76-0 1-Methylborinane, B -00403
 75126-77-1 $\triangleright$ 1-Ethylborolane, B -00402
 75213-13-7 1-Hexenyltrimethylborate(1-); Cu(I) salt, *in* B -00619
 75260-11-6 Isopropoxybis(2,4,6-trimethylphenyl)borane, B -01176
 75260-16-1 Phenoxybis(2,4,6-trimethylphenyl)borane, B -01246
 75260-17-2 4-*tert*-Butylphenoxybis(2,4,6-trimethylphenyl)borane, B -01308
 75260-18-3 (4-Chlorophenoxy)bis(2,4,6-trimethylphenyl)borane, B -01245
 75260-19-4 4-Methoxyphenoxybis(2,4,6-trimethylphenyl)borane, B -01269
 75325-34-7 Di- μ -carbonyldicarbonylbis[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl- B^2, N^1]diiron; *cis-form*, *in* B -01149
 75325-35-8 Dicarbonyl[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl- B^2, N^1](trimethylsilyl)iron, B -00866
 75334-22-4 [(3,4,5- η)-1-*tert*-Butyl-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl- B^2, N^1]iodoiron, B -00664
 75364-55-5 Di- μ -carbonyldicarbonylbis[(3,4,5- η)-1-(1,1-dimethylethyl)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl- B^2, N^1]diiron; *trans-form*, *in* B -01149
 75519-12-9 Cyanoborane diethanolamine, B -00336
 75519-14-1 (Ethoxycarbonyl)borane trimethylamine, B -00438
 75579-48-5 9-(1-Octenyl)-9-borabicyclo[3.3.1]nonane; (*Z*)-*form*, *in* B -01007
 75612-44-1 3-Boratricyclo[4.3.1.1^{3,8}]undecane, B -00673
 75612-45-2 3-Boratricyclo[4.3.1.1^{3,8}]undecane; Me_3N complex, *in* B -00673
 75612-46-3 3-Boratricyclo[4.3.1.1^{3,8}]undecane; THF complex, *in* B -00673
 75673-97-1 (η^5 -2,4-Cyclopentadien-1-yl)[(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]cobalt, *in* B -01343
 75673-98-2 [(1,2,5,6- η)-1,5-Cyclooctadiene][(1,2,3,4,5- η)-1,2,3,4,5-pentaphenyl-1*H*-borole]platinum, *in* B -01343
 76009-48-8 (*N, N'*-Hexamethylenyl-1,6)-di[7-methoxymethyl-3-borabicyclo[3.3.1]non-6-en-3-yl-(*N*-carbamoylpyridon-2-imate)], B -01373
 76014-64-7 3-(2-Aminophenoxy)-7-(methoxymethyl)-3-borabicyclo[3.3.1]-6-nonene, B -00996
 76014-65-8 N^1 -[*N*-(7-Methoxymethyl-3-borabicyclo[3.3.1]non-6-en)-3-yl]-(*N*-phenylcarbamoyl)pyridon-2-imate, B -01199
 76036-41-4 9-(1-Ethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane; (*E*)-*form*, *in* B -00916
 76062-77-6 3,7-Dimethyl-3-borabicyclo[3.3.1]nonane, B -00688
 76062-78-7 3-*tert*-Butyl-7-methyl-3-borabicyclo[3.3.1]nonane, B -00868
 76062-79-8 7-(Methoxymethyl)-3-methyl-3-borabicyclo[3.3.1]nonane, B -00739
 76069-95-9 3-Borabicyclo[3.3.1]non-3-yl acetylacetate, B -00860
 76069-96-0 7-Methylene-3-borabicyclo[3.3.1]nonyl acetylacetate, B -00902
 76069-97-1 7-Methoxymethyl-3-borabicyclo[3.3.1]nonyl acetylacetate, B -00963
 76069-98-2 7-Methyl-3-borabicyclo[3.3.1]nonyl acetylacetate, B -00910
 76070-07-0 7-(Methoxymethyl)-3-methyl-3-borabicyclo[3.3.1]nonane; *endo-form*, *in* B -00739
 76095-69-7 3-(1,3-Diphenyl-1,3-propanedionato)-3-borabicyclo[3.3.1]nonane, B -01313
 76170-55-3 3-Methyl-7-methylene-3-borabicyclo[3.3.1]nonane, B -00674
 76173-94-9 Chloro-1-hexenyl(1,1,2-trimethylpropyl)borane; (*E*)-*form*, *in* B -00799
 76173-97-2 Chloro(2-phenylethenyl)(1,1,2-trimethylpropyl)borane; (*E*)-*form*, *in* B -00899
 76173-98-3 Chloro(1-ethyl-1-butenyl)(1,1,2-trimethylpropyl)borane; (*Z*)-*form*, *in* B -00798

- 76184-42-4 Dibutoxy(3,7-dimethyl-1,6-octadien-3-yloxy)borane, B -01100
- 76284-46-3 Diethyl(1-ethyl-2-butenyl)borane, B -00701
- 76371-55-6 9-(2-Butenyl)-9-borabicyclo[3.3.1]nonane; (*E*)-*form*, in B -00782
- 76371-56-7 9-(2-Butenyl)-9-borabicyclo[3.3.1]nonane; (*Z*)-*form*, in B -00782
- 76422-63-4 9-Borabicyclo[3.3.1]nonane tetrahydrofuran, in B -00545
- 76430-53-0 (1,2-Dimethylpropyl)trihydroborate(1-); Li salt, in B -00341
- 76448-06-1 9-Boratabicyclo[3.3.1]nonane; K salt, in B -00546
- 76448-07-2 9-Boratabicyclo[3.3.1]nonane; Na salt, in B -00546
- 76448-08-3 9-Boratabicyclo[3.3.1]nonane; Li salt, in B -00546
- 76601-70-2 Dicarboxyl[η^5 -nonahydrodicarbanonaborato(4-)]-(triphenylphosphine)ruthenium, B -01196
- 76695-88-0 9-(2,6,6-Trimethylbicyclo[3.1.1]hept-3-yl)-9-borabicyclo[3.3.1]nonane; (1'*S*)-*form*, in B -01083
- 76772-21-9 Bis[2,2-bis(bromomethyl)-1,3-propanediolato(2-)-*O,O'*]borate(1-); K salt, in B -00668
- 76798-39-5 Bis[μ -[η^6 -nonahydrodicarbanonaborato(2-)-*B,H*]]-tetrakis(triethylphosphine)diruthenium, in B -00941
- 76826-48-7 Di-*tert*-butyl(dimethylamino)borane, B -00720
- 76826-51-2 *tert*-Butyltrihydroborate; Li salt, in B -00258
- 76873-78-4 *tert*-Butyldichloroborane, B -00229
- 76885-32-0 1-Butyl-3,6-dimethylborepane, B -00804
- 77070-13-4 (η^5 -2,4-Cyclopentadien-1-yl)[(2,3,6,7- η)-4,5-dihydro-1-phenyl-1*H*-borepin-*B*]cobalt, in B -00764
- 77123-50-3 Butylcyclohexyl(1,1,2-trimethylpropyl)borane, B -01020
- 77161-71-8 9-(1-Pentenyl)-9-borabicyclo[3.3.1]nonane, B -00863
- 77569-52-9 4-(Diethylamino)benzenediazonium tetraphenylborate(1-), B -01344
- 77657-15-9 (Methylthio)bis(2,4,6-trimethylphenyl)borane, B -01127
- 77657-16-0 (Ethylthio)bis(2,4,6-trimethylphenyl)borane, B -01144
- 77657-17-1 (Benzylthio)bis(2,4,6-trimethylphenyl)borane, B -01270
- 77657-18-2 (Phenylthio)bis(2,4,6-trimethylphenyl)borane, B -01247
- 77657-19-3 (4-Methylphenylthio)bis(2,4,6-trimethylphenyl)borane, B -01271
- 78024-07-4 Dibutyl(1-*tert*-butylthio-1-propenyloxy)borane; (*Z*)-*form*, in B -00975
- 78024-09-6 Dibutyl(1-phenyl-1-propenyloxy)borane; (*Z*)-*form*, in B -01037
- 78024-10-9 Dibutyl(2-penten-3-yloxy)borane; (*Z*)-*form*, in B -00874
- 78207-46-2 [3-(Cyclohexylmethylamino)propyl]borane, B -00707
- 78264-64-9 1,5-Cyclooctanediyl[N-1-naphthalenyl-N-[(1-naphthalenylamino)carbonyl]-2-heptenamido-*O,O'*]boron, B -01354
- 78264-65-0 [N-Cyclohexyl-N-[(cyclohexylamino)carbonyl]-2-heptenamido-*O,O'*]-1,5-cyclooctanediylboron, B -01309
- 78264-69-4 1,5-Cyclooctanediyl[4,4-dimethyl-N-phenyl-N-[(phenylamino)carbonyl]-2-pentenamido-*O,O'*]boron, B -01305
- 78264-70-7 1,5-Cyclooctanediyl[N-phenyl-N-[(phenylamino)carbonyl]-2-heptenamido-*O,O'*]boron, B -01306
- 78315-27-2 *N*-Ethylcarbamoylborane triphenylphosphine, B -01168
- 78315-29-4 (Ethoxycarbonyl)borane triphenylphosphine, B -01167
- 78461-60-6 1-Hexenyldihydroxyborane, B -00409
- 78534-54-0 Di- μ -carbonyldicarbonylbis[(3,4,5- η)-2,3-dihydro-2-methyl-1*H*-1,2-azaborol-3-yl-*B^2,N^1*]diiron, B -00766
- 78577-62-5 Diethyl(2-pyridylmethylamino)borane, B -00676
- 78605-83-1 [2-(1,3-Benzodithiol-2-yl)-1-phenyl-1-heptenyl]diphenylborane; (*E*)-*form*, in B -01337
- 78605-87-5 [2-(1,3-Benzodithiol-2-yl)-1-phenyl-1-heptenyl]diphenylborane; (*Z*)-*form*, in B -01337
- 78607-90-6 1-Heptyltriphenylborate(1-); Li salt, in B -01267
- 78789-62-5 (*N,N'*-Dicyclohexyl-*N''*-2-thiazolylguanidinato-*N,N''*)diphenylboron, B -01307
- 78798-72-8 (*N,N'*-Dicyclohexyl-*N''*-2-thiazolylguanidinato-*N,N''*)bis(1-methylethyl)boron, B -01208
- 78802-91-2 4-Diethylamino-2-methylphenylammonium tetraphenylborate, B -01351
- 78885-81-1 Trimethylphenylborate(1-); Li salt, in B -00594
- 78885-82-2 Methyltriphenylborate(1-); Li salt, in B -01118
- 78955-00-7 Tris(4-fluorophenyl)methylborate(1-); Li salt, in B -01113
- 78964-99-5 9-(3-Hexyl)-9-borabicyclo[3.3.1]nonane, B -00921
- 79069-87-7 Borinane; Tetraethylethylenediamine complex, in B -00327
- 79073-86-2 9-(3,3-Dimethyl-1-butenyl)-9-borabicyclo[3.3.1]nonane, B -00915
- 79154-10-2 9-[1-(Trimethylstannyl)-2-butenyl]-9-borabicyclo[3.3.1]nonane, B -00972
- 79217-35-9 2-Adamantyl-6-aza-1,3-dioxo-2-boracyclocloctane, B -00911
- 79408-42-7 (η^5 -2,4-Cyclopentadien-1-yl)-[tetrahydroborato(1-)-*H*]-bis(triphenylphosphine)ruthenium, B -01384
- 79563-39-6 Dibutyl[1-(4-isopropyl-2-oxo-3-oxazolidinyl)-propen-1-yloxy]borane; (*S*)-*form*, in B -01045
- 79593-16-1 Dibutyl[3-[1-hydroxy-2-(methylthio)ethenyl]-4-(1-methylethyl)-2-oxazolidinonato-*O^2,O^3*]boron; (*S*)-*form*, in B -01046
- 79616-69-6 Dibutyl[3-(1-hydroxyethenyl)-4-(1-methylethyl)-2-oxazolidinonato-*O^2,O^3*]boron; (*S*)-*form*, in B -01008
- 79790-95-7 [(2,2-Dimethyl-1,3-dioxolane-4,5-diyl)-bis(methylene)]bis[diphenylphosphine]-*P,P'*[(η^6 -phenyl)triphenylborato(1-)]rhodium; (*R,R*)-*form*, in B -01398
- 80464-85-3 [(1,2,3,4,5,6- η)-Methylbenzene][(7,8,9,10,11- η)-1,2,3,4,5,6,8,10,11-nonahydro-7,9-dimethyl-7,9-dicarbaundecaborato(2-)]iron, B -00745
- 80572-82-3 [(μ_4 -(Boryl-*B:B:H:H'*))]dodecacarbonyl- μ -hydrotetrairon, B -00755
- 81174-43-8 Tri-*tert*-butylborane; Radical anion (1-), in B -00812
- 81923-59-3 Bis[(3,4- η)-4,5-diethyl-1,2,2,3-tetramethyl-1-aza-2-sila-5-boracyclopent-3-ene-*B^3,N^1*]iron, B -01161
- 81952-05-8 Tricarbonyl[(3,4- η)-4,5-diethyl-1,2,2,3-tetramethyl-1-aza-2-sila-5-boracyclopent-3-ene-*B^5,N^1*]iron, B -00861
- 82704-19-6 [(1,2,3,4,5,6- η)-Hexamethylbenzene]-[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron, B -00929
- 82704-20-9 (η^6 -Benzene)[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]ruthenium, B -00556
- 82733-98-0 [(1,2,3,4,5,6- η)-1,3,5-Trimethylbenzene]-[(7,8,9,10,11- η)-undecahydro-7,8-dicarbaundecaborato(2-)]iron, B -00746
- 84582-97-8 [(1,2,3,4,5- η)-1,3,5-Cyclooctatriene]-[(1,2,3,4,5- η)-pentahydro-1,2-diethyl-1,2-dicarbapentaborato(2-)]iron, B -00920
- 84582-99-0 (η^6 -Benzene)[(2,3,4,5,6- η)-2,2-diethyl-1,4,5,6-tetrahydro-2,3-dicarbahexaborato(2-)]iron, B -00778
- 84583-04-0 [(1,2,3,4,5,6- η)-1,3,5-Cyclooctatriene]-[(2,3,4,5,6- η)-2,3-dimethyl-1,4,5,6-tetrahydro-2,3-dicarbahexaborato(2-)]iron, B -00779

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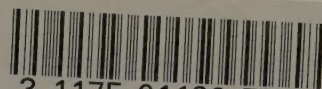
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